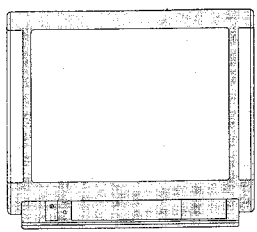
Nov 1995

MITSUBISHI

Service Manual



Colour TV

Models

CT-21AV1BS

SPECIFICATIONS

Reception System	CCIR-I PAL		
Reception Frequency	UHF 470MHz~862MHz VHF 47~170MHz (VB1), 170~448MHz (VB2)		(all models) (LS model only)
Mains Input	AC 230V 50Hz		
Power Consumption	110W 124W		(21AV1BS) (25AV1BS / 25AV1LS)
Aerial Input	75 ohm		
Intermediate Frequency	Video Sound	39.5MHz 33.5MHz	
Audio Output (music power)	12W + 12W		
Speaker	2 x (10cm dia + 4cm dia)		
Chassis	EE3		
Picture Tube	A51EAL155X01 A59EAK71X11	21", 90° 25", 110°	(21AV1BS) (25AV1BS / 25AV1LS)
Cabinet dimensions (approx. W x D x H)	540mm x 480mm x 450mm 604mm x 473mm x 500mm		(21AV1BS) (25AV1BS / 25AV1LS)
Weight (approx. Not incl. stand)	24Kg 28Kg		(21AV1BS) (25AV1BS / 25AV1LS)

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1 GENERAL NOTES

1.1 SAFETY PRECAUTIONS

1.1.1 General Warnings

1. Observe any cautions and safety related notes located inside the receiver cabinet and on the receiver chassis.
2. An isolation transformer should be used between the television receiver and the AC power supply point before any test or servicing is performed on a LIVE chassis television receiver.
3. Operation of these receivers outside the cabinet or with the back cover removed involves a shock hazard from the receiver power supplies. Work on the receiver should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment.
4. Do not install, remove or handle the picture tube in way unless shatterproof goggles are worn. People not so equipped should be kept away while the picture tube is being handled. Keep the picture tube away from the body while handling.
5. When service is required, observe the original lead dressing. Extra precaution should be given to assure correct lead dressing in the high voltage area. Where a short-circuit has occurred, replace those components that indicate evidence of overheating.

1.1.2 X-RAY Warning

Under fault conditions the CRT can generate X-rays. The use of a lead apron is recommended if available.

When replacing the CRT only use the designated replacement part as it is a critical component with regard to X-rays. No high-voltage adjustments are provided.

1.1.3 Leakage Current Check

Before returning the receiver to the customer it is recommended that the leakage current be measured according to the following method:

With the AC plug removed from the AC source, place a jumper across the live and neutral pins. Turn the receiver AC switch on. Using an OHMMETER, connect one lead to the shorted AC plug and touch the other lead to each exposed metal part (antennas, screw heads, etc.) in turn, particularly any exposed metal part having a return path to the chassis. Any resistance below a value of 1 MEG OHM indicates an abnormality which requires corrective action.

1.2 CONTROLS AND CONNECTORS

1.2.1 Front Panel

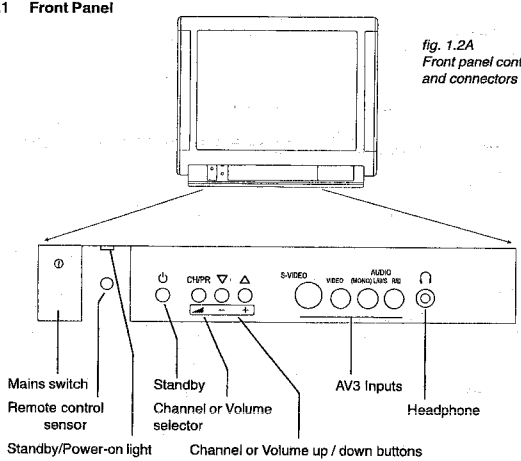


fig. 1.2A
Front panel controls and connectors

1.2.2 Rear Panel

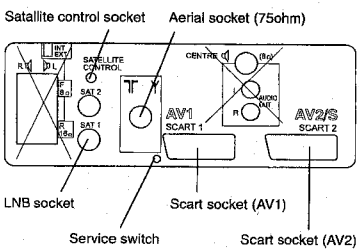


fig. 1.2B Rear panel connectors

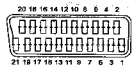


fig. 1.2C Scart socket pin details

Pin	AV1	AV2
1	Audio out – R	Audio out – R
2	Audio in – R	Audio in – R
3	Audio out – L	Audio out – L
4	Audio earth	Audio earth
5	Blue earth	Earth
6	Audio in – L	Audio in – L
7	Blue in	Not connected
8	Function switch	Function switch
9	Green earth	Earth
10	Not connected	Not connected
11	Green in	Not connected
12	Not connected	Not connected
13	Red earth	Chroma earth
14	Blanking earth	Earth
15	Red in	Chroma in
16	RGB blanking	Not connected
17	Video out earth	Video out earth
18	Video in earth	Y earth
19	Video out	Video out
20	Video in	Y in
21	Socket earth	Socket earth

1.3 REQUIRED EQUIPMENT

1.3.1 Measuring equipment

- Oscilloscope
- Signal generator
- DC milliammeter
- DC voltmeter

1.3.2 Test signals

- PAL Crosshatch
- PAL Monoscope (or a VCR playing a monoscope alignment tape)
- PAL Colour-bar with the specification as in figure 1.3A below:

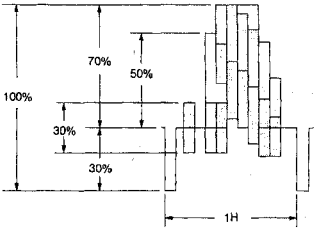


fig. 1.3A Split-field colour bars (with 100% window)

1.4 CONNECTING LEADS

1.4.1 Identification

Connecting leads are identified by the colours of their wires according to figure 1.4A below:

Colour	Code
BLACK	A
BROWN	B
RED	C
ORANGE	D
YELLOW	E
GREEN	not used (earth)
BLUE	G
VIOLET	H
GREY	J
WHITE	K
PINK	L

Example:

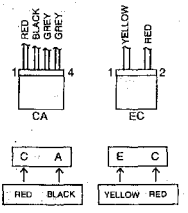


fig. 1.4A Connecting lead identification chart

1.4.2 Lead dressing

Leads must be dressed as shown in table 1.4B and the diagram (fig. 1.4C) below. The leads are routed or clamped so that they do not come close to any heat generating or high-tension parts.

The anode lead wire is routed such that no tension is applied to the anode cap. If the mounting angle of the anode cap and the route of the anode lead wires are changed, return them to the initial angle and route.

CLAMP	21AV1BS	25AV1BS, 25AV1LS
1	KB, KK	KB, KK
2	DA	DA
3	HH, HJ	HH, HJ
4	CA, DG, GB	CA, DG, GB
5	GA, DA (loop wires 1 and 2 only)	GA, DA
6	DY	DY
7	LB	LB, SA, BA (looped twice)
8	GA, GB	GA, GB
9	LB (looped), SB, Focus	LB (looped), SB, Focus
10	Anode lead	Anode lead
11	DA (wires 1 and 2 only)	BA, DA (wires 1 and 2 only)

table 1.4B Lead-dressing table.

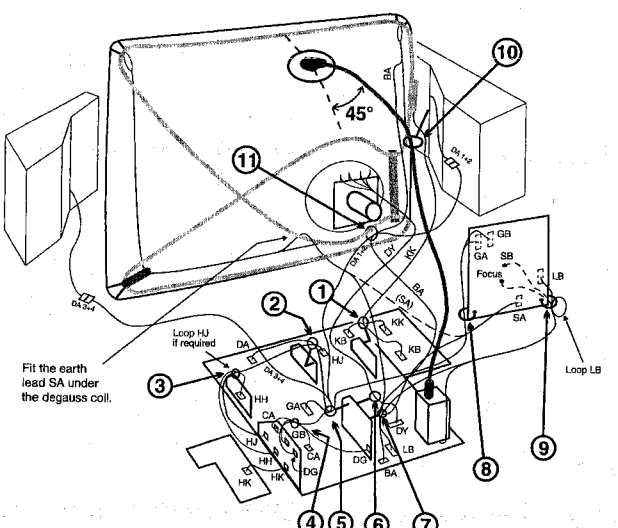


fig. 1.4C Lead-dressing diagram.

2 SERVICE ADJUSTMENT PROCEDURES

2.1 INTRODUCTION

Most service adjustments to these models are made using the remote control (figure 2.1A) with the TV in service mode. The adjustment data is stored in an EEPROM.

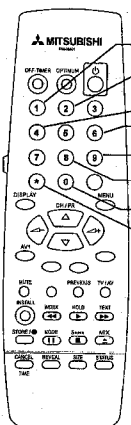


fig. 2.1A Remote Control Unit

2.1.1 Basic adjustment procedure

1. Turn the power on. With a small screwdriver, press the Service switch (S701, next to the aerial socket) and then button "9" within 5 seconds to enter service mode.
2. Press the "*" button to select either the VCJ or OPTION adjustment display (figs. 2.1B and C).

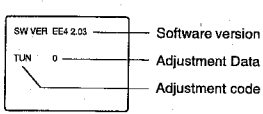


fig. 2.1B Options adjustment display

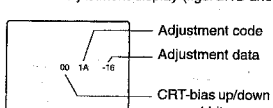


fig. 2.1C VCJ adjustment display

3. Press buttons "2" or "8" to increase or decrease the adjustment code number.
4. Press buttons "6" or "4" to increase or decrease the data value.
5. After completing your adjustments, press button "0" to write the adjustment data to the EEPROM.

   To cancel a change, press button "1" (or the Standby button) before writing the adjustment to the EEPROM. All data adjusted since the last EEPROM write will be reset.

2.2 INITIALISING THE EEPROM

If you have replaced the EEPROM (IC702) or if for any reason the adjustment data has become corrupted it will be necessary to initialise the EEPROM.

2.2.1 Initialising the EEPROM

1. If necessary, switch off by the Main switch.
2. Hold in the service switch (S701, next to the aerial socket) while switching on by the Main switch.
3. Release the service switch after 3 seconds.
4. Switch off by the Main switch.

   The EEPROM data values have now all been reset to their initial default values as shown in table 2.2C.
5. Switch on by the Main switch. Press the Service switch and then button "9" within 5 seconds to enter service mode.
6. Press the "✱" button to select the OPTIONS adjustment display.
7. Press buttons "2" or "8" on the remote control to select the adjustment code.
8. Adjust the data value for each code using buttons "2" or "4" on the remote control according to table 2.2A below:

   (Other adjustment codes will be displayed but need not be changed on these models.)

CODE:	TUN	SAT	AUD	ATS	STD	SYS	AVI	SPK	ABG	AI	AL	ADK	MNP	FFT
21/25AV1BS	0	1	10	1	1	2	2	0	02	02	00	15	70	1
25AV1LS	1	1	10	1	1	2	2	0	02	02	00	15	70	1

table 2.2A Data values for the OPTIONS adjustments.

9. Press the "0" button to write the changes to the EEPROM.
10. Press the "✱" button to select the VCJ adjustment display.
11. Press buttons "2" or "8" on the remote control to select the adjustment code.
12. Adjust the data value of each code using buttons "2" or "4" on the remote control according to table 2.2B below:

    (Other adjustment codes will be displayed but need not be changed on these models.)

CODE:	07	11	12	19	1B	1C
21AV1BS	-7	001	111	-1	-13	00
25AV1BS / LS	-7	001	111	-3	-11	-2

table 2.2B Data values for the VCJ adjustments.

13. Press the "0" button to write the changes to the EEPROM.

2.2.2 EEPROM Default data values.

These values are adequate to allow the set to be adjusted.

VCJ data values

CODE	FUNCTION	DATA VALUE
00	V-AMP	-16
01	V-CORRECT	-31
02	P-AMP	+05
03	TILT	-12
04	V-LIN	+23
05	C-CORRECT	-09
06	H-AMP	-22
07	16x9 - SW.RGB-MATRIX	-07
08	V-SHIFT	+02
09	H-PHASE	+10
0A	B-DRIVE	+01
0B	G-DRIVE	+01
0C	R-DRIVE	+01
0D	CONTRAST	+14
0E	BRIGHT	+01
0F	COLOUR-SAT	+10
10	NTSC-TINT	00
11	SHARP	111
12	PAL-LUMA-DELAY	111
13	SECAM-LUMA-DELAY	111
14	V-AMP-60	00
15	P-AMP	00
16	H-AMP-60	00
17	V-SHIFT-60	00
18	H-PHASE-60	00
19	H-PHASE-TEXT	00
1A	H-PHASE-SECAM	00
1B	H-PHASE-RGB	00
1C	P-AMP-16 : 9	00
1D	358NTSC-LUMA-DELAY	111
1E	443NTSC-LUMA-DELAY	111

OPTIONS data values

ITEM	DESCRIPTION	DATA VALUE
TUN	TUNER TYPE	0
SAT	SATELLITE ENABLE	0
AUD	AUDIO SYSTEM	0
ATS	AUTO TUNING SORT	0
STD	RECEPTION STANDARD	0
SYS	COLOUR SYSTEM	0
AV1	NO. OF AV INPUTS	0
AVD	AV DUBBING	–
EEX	CHASSIS TYPE	–
SPK	SPEAKER SW ENABLED	1
EEP	EEPROM SIZE	–
ABG	AGC GAIN - BG	10
AI	AGC GAIN - I	10
AL	AGC GAIN - L	10
ADK	AGC GAIN - DK	10
MNP	NICAM PRESCALE	70
TXT	TELETEXT TYPE	–
FFT	FAST / TOP TEXT	0

table 2.2C EEPROM Default data values.

2.3 VIF CIRCUITS

2.3.1 RF-AGC

VR101 (adjacent to the tuner)

1. Connect an RF signal such as an off-air broadcast.
2. Check the AFT is on for the current channel.
3. Adjust VR101 so that the picture and sound exhibit no noise, beat or intermodulation distortion.

2.4 DEFLECTION CIRCUITS

2.4.1 Important notes

Before making any adjustments, if you have changed the CRT, FLYBACK TRANSFORMER or made any changes in the deflection circuits; adjust the CRT bias as described in 2.6.1 steps 1 ~ 6 (*Video Circuits – Screen control*).

Check the VERTICAL BREATHING CORRECTION as follows:

1. Select the VCJ adjustment display.
2. Set the adjustment code to "01" with buttons "2" or "8" on the remote control.
3. If necessary, adjust the data value to "-31" using buttons "4" or "6" on the remote control.

2.4.2 Horizontal centre

Code 09 (H-PHASE)

1. Connect a VCR and play a PAL-Monoscope alignment tape.
2. Select the VCJ adjustment display.
3. Set the adjustment code to "09" with buttons "2" or "8" on the remote control.
4. Adjust the horizontal position with buttons "4" or "6" on the remote control.

2.4.3 Horizontal width

(25AV1BS / LS only)

Code 06 (H-AMP)

1. Connect a VCR and play a PAL-Monoscope alignment tape.
2. Select the VCJ adjustment display.
3. Set the adjustment code to "06" with buttons "2" or "8" on the remote control.
4. Adjust horizontal width with the buttons "4" or "6" on the remote control.

2.4.4 East-West PCC

(25AV1BS / LS only)

Code 05 (CORNER CORRECTION)
Code 03 (PARABOLA TILT)
Code 02 (PARABOLA AMP)

1. Connect an RF PAL Crosshatch signal.
2. Select the VCJ adjustment display.
3. Set the adjustment code to "05" with buttons "2" or "8" on the remote control.
4. Adjust the data value to "-25" with buttons "4" or "6" on the remote control.

5. Set the adjustment code to "03" with buttons "2" or "8" on the remote control.
6. Watching the second vertical line in from both sides of the screen (figure 2.4A), make any upper and lower distortion symmetrical using buttons "4" or "6" on the remote control.
7. Set the adjustment code to "02" with buttons "2"or "8" on the remote control.
8. Adjust the straightness of both vertical lines (figure 2.4B) using buttons "4" or "6" on the remote control.
9. Repeat steps 1 to 8 above if necessary.
10. Connect a VCR and play a PAL-Monoscope alignment tape.
11. Make sure the horizontal width and horizontal centre are correct. If necessary readjust Horizontal Centre ("09") and Horizontal Width ("06") again.

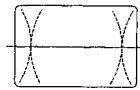


fig. 2.4A

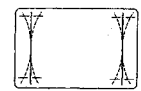


fig. 2.4B

2.4.5 Height and linearity

Code 00 (V-AMP)
Code 04 (V-LIN)

1. Connect a VCR and play a PAL-Monoscope alignment tape.
2. Select the VCJ adjustment display.
3. Set the adjustment code to "00" (V-AMP) with buttons "2" or "8" on the remote control.
4. Adjust the circle to a true circle with buttons "4" or "6" on the remote control.
5. Set the adjustment code to "04" (V-LIN) with buttons "2" or "8" on the remote control.
6. Adjust the linearity to be the same for the top and bottom halves of the circle using buttons "4" or "6" on the remote control.
7. Set the adjustment code to "00" (V-AMP) with buttons "2" or "8" on the remote control.
8. Readjust V-AMP with buttons "4" or "6".
9. Repeat the steps above, if necessary.

2.4.6 Vertical centre

Code 08 (V-SHIFT)

1. Connect a VCR and play a PAL-Monoscope alignment tape.
2. Select the VCJ adjustment display.
3. Set the adjustment code to "08" (V-SHIFT) with buttons "2" or "8" on the remote control.
4. Adjust the centre line of picture to be within +/- 3mm from the vertical centre on the screen using buttons "4" or "6" on the remote control.

2.4.7 60Hz Deflection circuit offsets

Code 14 (V-AMP 60)
Code 15 (P-AMP 60)
Code 16 (H-AMP 60)
Code 17 (V-SHIFT 60)
Code 18 (H-PHASE 60)

1. Connect an RF 60Hz Crosshatch signal.
2. Select the VCJ adjustment display.

3. Select each adjustment code in turn with buttons "2" or "8" on the remote control and adjust each item to the figures shown in table 2.4C below using buttons "4" or "6" on the remote control.

CODE:	14	15	16	17	18
21AV1BS	+7	00	00	+9	-6
25AV1BS / LS	+8	+1	-2	+14	-4

table 2.4C 60Hz adjustment offsets

2.5 CRT CIRCUITS

2.5.1 White balance

Code 0A (B-DRIVE)
Code 0B (G-DRIVE)
Code 0C (R-DRIVE)

1. Connect a VCR and play a PAL-Monoscope alignment tape.
2. Select the VCJ adjustment display.
3. Set the adjustment codes to "0A", "0B" and "0C" in turn and pre-adjust each to "0".
4. Adjust codes "0A" and "0C" to adjust the white balance.

2.5.2 Focus

FOCUS control on the Flyback Transformer

1. Connect an RF signal such as an off-air broadcast.
2. Adjust the FOCUS control for the best overall focus.

2.6 VIDEO CIRCUITS

Perform the following adjustments after adjusting the Deflection circuits. Allow the TV to warm up for 20 minutes before proceeding

2.6.1 Brightness and Contrast

SCREEN control on the Flyback Transformer
Code 0F (COLOUR SATURATION)
Code 0E (BRIGHTNESS)
Code 0D (CONTRAST)
BEAM CURRENT (using connector TP adjacent to the Flyback Transformer)

1. Connect an RF Crosshatch signal.
2. Select the VCJ adjustment display.
3. Make sure that the Screen Up/Down Request Bit is set to "00". If not, adjust the SCREEN control on the Flyback Transformer.
4. Change the external signal to a Colour-bar.
5. Readjust the SCREEN control to give "00".
6. Repeat steps 1 to 5 until the Screen Up/Down Request Bit is "00" for both signals.
7. Connect an RF Colour-bar signal.
8. Set the adjustment code to "0F" with buttons "2" or "8" on the remote control.
9. Adjust the data value to "-32" with buttons "4" or "6" on the remote control.

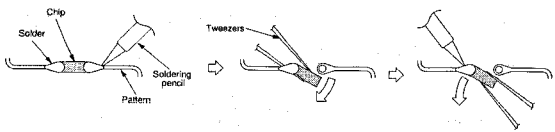
3 CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts (i.e. surface mount or SMD parts). When replacing these parts, note the following precautions:

- Use fine tipped, well insulated soldering iron of about 30 watts and tweezers.
- Melt the solder and remove the Chip Parts carefully so as not to tear off the copper foil from the printed circuit board.
- Discard removed chips, do not re-use them.
- Do not apply heat for more than 3 seconds to new Chip Parts.
- Avoid using a rubbing action when soldering.
- Take care not to scratch or damage the Chip Parts when soldering.
- Supplementary cementing is not required.

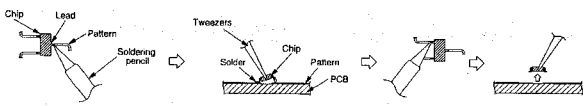
3.1 Removal of Chip Resistors, capacitors, etc.

1. Grasp the part with tweezers. Melt the solder at both sides alternately and remove the one side of the part with a twisting motion.
2. Melt the solder at the other side and remove the part.



3.2 Removal of Chip Transistors

1. Melt the solder of one lead, and lift the side of that lead upward.
2. Simultaneously melt the solder of the two remaining leads and lift the part from the PCB.



3.3 Replacement

1. Pre-solder the contact points on the circuit pattern.
2. Press the part downward with tweezers and apply the soldering iron as shown in the figure.

10. Set the adjustment code to "0E" with buttons "2" or "8" on the remote control.
11. Adjust using buttons "4" or "6" so that a slight difference in brightness can be seen between blue and black areas.
12. Set the adjustment code to "0D" with the buttons "2" or "8" on the remote control.
13. Connect a DC ammeter's "+" lead to connector TP pin 1 on the MAIN-PCB and the "-" lead to connector TP pin 2.
14. Adjust the beam current using buttons "4" or "6" on the remote control to 1000±20µA for 25AV1BS / LS or 950±20µA for 21AV1BS.
15. Check, and if necessary, readjust the BRIGHTNESS, code "0E".
16. Check that the Screen Up/Down Request Bit is "00". If not, repeat steps 1 to 13 above.
17. Now proceed to the Colour Output adjustment.

2.6.2 Colour output

Make this adjustment only after adjusting the White Balance, Brightness and Contrast.

Code 0F (COLOUR SATURATION)

1. Connect an RF Colour-bar signal.
2. Select the VCJ adjustment display.
3. Set the adjustment code to "0F" with buttons "2" or "8" on the remote control.
4. Connect an oscilloscope to the junction of R673 and IC660 Pin 9 (BLUE-OUT) on the CRT PCB).
5. Make adjustments using buttons "4" or "6" on the remote control until the waveform is as shown in figure 2.6A.
6. Increase the resulting data value by five steps.

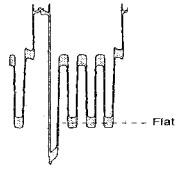


fig. 2.6A

2.7 POWER CIRCUIT

2.7.1 B4 Voltage

VR951 (on main PCB next to the SMT)

1. Connect a VCR and play a PAL-Monoscope alignment tape.
2. Push the OPTIMUM button on the remote control.
3. Connect a DC voltmeter's "+" lead to TP91 on the MAIN PCB and the "–" lead to GROUND.
4. Adjust VR951 so that the voltage is 145±2V for 25AV1BS / LS or 122±2V for 21AV1BS.

4 VIDEOCRYPT DECODER

The VideoCrypt decoder PBC is only serviceable by Mitsubishi service department.

In the event of a fault on this PCB, please follow this procedure:

1. Contact the Mitsubishi consumer spares department to request an advance replacement VideoCrypt decoder PCB.
2. Upon receipt of the replacement PCB, complete the enclosed form and return it with the faulty PCB, in the packaging provided.

Failure to return the PCB within 30 days will incur full replacement PCB costs.

NOTE

The plastic PCB frame, connecting lead and fixing screw should be retained as the replacement PCB is supplied *without* these items.

User Guide

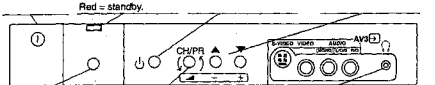
TV CONTROLS

MAINS ON/ OFF
Press to switch the TV on or off.

POWER ON/ STANDBY lamp
Green = TV on
Amber = Dubbing mode *(See page 26)*
Red = standby.

STANDBY
Press to switch the TV on from standby. Press again to switch it back to standby.

Press these buttons to change channel up or down by one number, or to adjust the volume up or down.

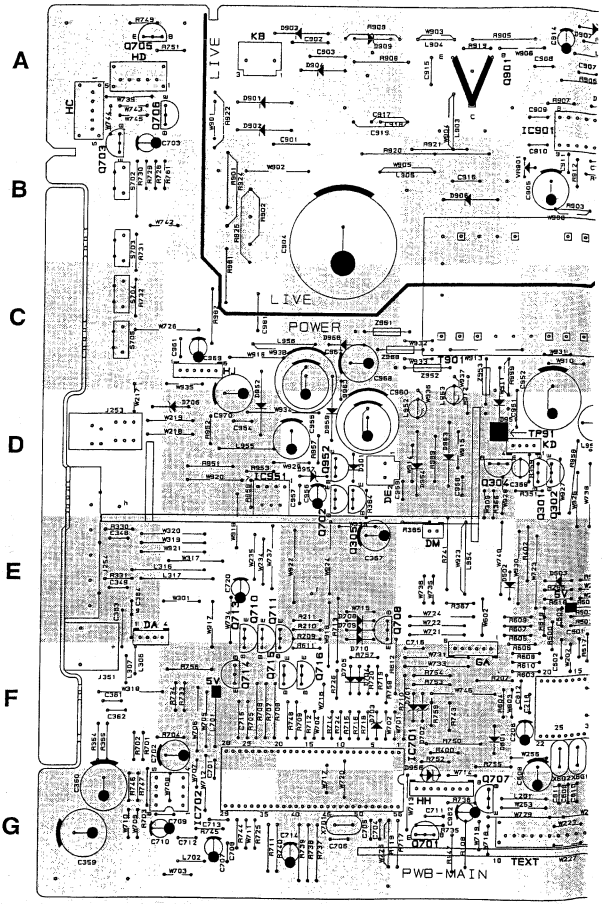


REMOTE CONTROL SENSOR
Point your remote control here.

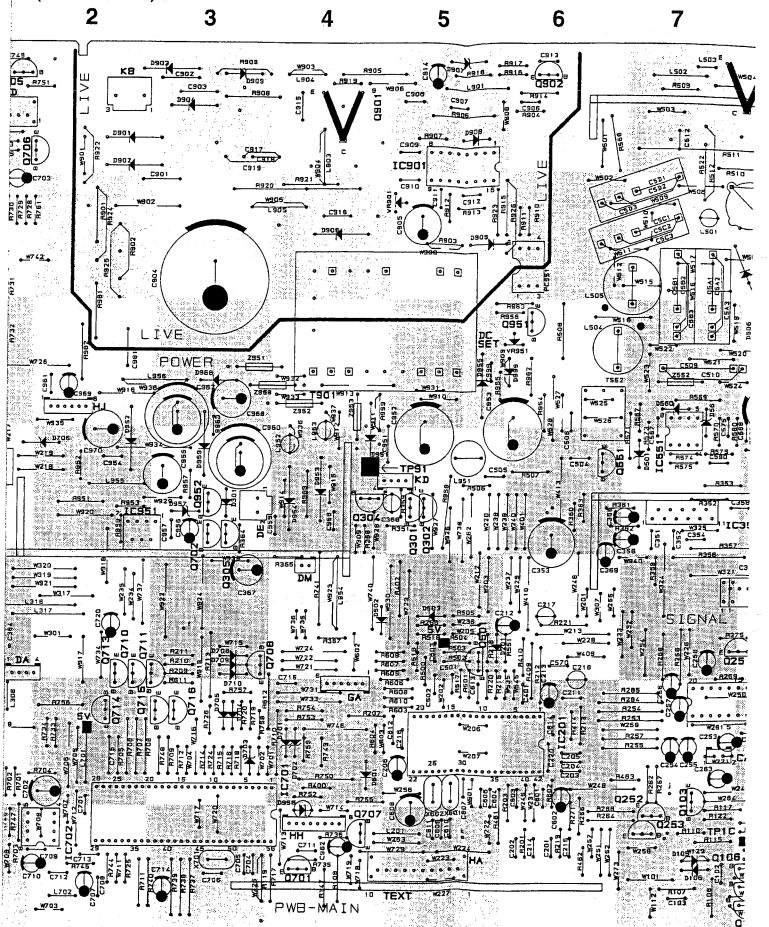
CH/PR
Press to choose volume adjustment or channel change.

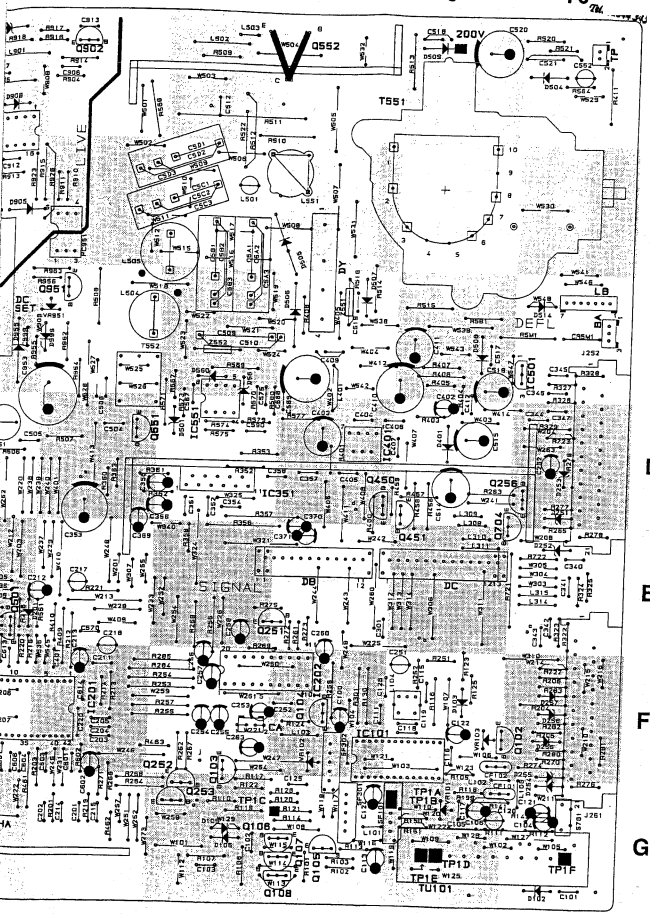
HEADPHONE SOCKET
Plugging in headphones will switch off the loudspeakers.

PCB-MAIN (AV1 series)



N (AV1 series)


2
3
4
5
6
7
PWB-MAIN
TEXT
POWER
LIVE
SIGNAL
IC901
IC951
IC851
Q951
Q852
Q853
Q854
Q855
Q856
Q857
Q858
Q859
Q860
Q861
Q862
Q863
Q864
Q865
Q866
Q867
Q868
Q869
Q870
Q871
Q872
Q873
Q874
Q875
Q876
Q877
Q878
Q879
Q880
Q881
Q882
Q883
Q884
Q885
Q886
Q887
Q888
Q889
Q890
Q891


6
7
8
9
10
A
B
C
D
E
F
G
LIVE
SIGNAL
DEFL
200V
Q552
Q902
T551
IC551
IC351
IC101
Q451
Q450
Q256
Q251
Q252
Q253
Q106
Q108
TU101
TP1A
TP1B
TP1C
TP1D
TP1E
TP1F

MAIN PCB COMPONENT ADDRESSES

C509	C7
C5A1	B7
C5A2	B7
C5A3	C7
C5B1	B7
C5B2	B7
C5B3	C7
C5C1	B7
C5C2	B7
C5C3	B7
C5D1	B7
C5D2	B7
C5D3	B6
C904	B3
C981	C2
CF101	G9
CF102	F9
CR5M1	C10
D102	G10
D103	F9
D105	G7
D106	G7
D201	E6
D251	D10
D252	E10
D253	D10
D254	G10
D255	F10
D256	F10
D257	F10
D258	F10
D301	D3
D401	D9
D501	D7
D502	E4
D503	E5
D504	A10
D505	B9
D506	C8
D507	C8
D508	C9
D509	A9
D514	C10
D560	C7
D561	C7
D601	F4
D701	F4
D702	F4
D703	F3
D704	F3

D705	F3
D706	D2
D708	E3
D709	E3
D710	E3
D901	A2
D902	A2
D903	A3
D904	A3
D905	B5
D906	B4
D907	A5
D908	A5
D909	A3
D951	D4
D952	D2
D953	D4
D954	D4
D955	C5
D956	G4
D957	D3
D959	D3
D968	C3
D999	C6
IC101	F9
IC201	F6
IC202	F8
IC351	D7
IC401	D8
IC501	C10
IC551	D7
IC701	F4
IC702	G2
IC901	A5
IC951	D2
J251	G10
J252	C10
J253	D1
J254	E1
J351	F1
L101	G8
L102	G9
L103	F8
L104	F9
L106	G10
L201	G5
L306	F1
L307	F1
L308	D9
L309	D9

L310	E9
L311	E9
L314	E10
L315	E10
L316	E2
L317	E2
L401	C8
L501	B7
L502	A7
L503	A7
L504	C6
L505	B6
L551	B8
L701	F2
L702	G2
L901	A5
L903	A4
L904	A4
L905	B4
L951	D5
L952	D4
L953	D4
L954	E4
L955	D2
L956	C3
PC951	B6
Q102	F10
Q103	F7
Q104	F8
Q105	G8
Q106	G8
Q107	G8
Q108	G7
Q251	E8
Q252	G7
Q253	G7
Q256	D10
Q301	D5
Q302	D5
Q304	D4
Q305	D3
Q450	D8
Q451	D9
Q501	E5
Q551	D6
Q552	A8
Q701	G4
Q702	D3
Q703	B1
Q704	D10

Q705	A1
Q706	A1
Q707	G4
Q708	E3
Q710	E2
Q711	E2
Q713	E2
Q714	F2
Q715	F3
Q716	F3
Q901	A4
Q902	A6
Q951	C6
Q952	D3
R352	D7
R353	D7
R406	C9
R508	C6
R511	A7
R512	A7
R513	A9
R514	C8
R516	C8
R573	D7
R574	D7
R575	D7
R5M1	C10
R921	B4
R954	C6
R955	C5
R981	C2
R982	C2
S701	G10
S702	B1
S703	B1
S704	C1
S705	C1
SF101	G9
SF301	G8
SF302	F8
T551	A8
T552	C6
T901	C4
TU101	G9
VR101	G9
VR102	F8
VR103	F9
VR901	B5
VR951	C6
X601	F5

X602	F5
X701	G3
Z551	C8
Z552	C7
Z951	C3
Z952	C4
Z953	C4
Z968	C3

PCB-SAT COMPONENT ADDRESSES

C101	D4
C102	C4
C103	C4
C104	D4
C105	C3
C106	D3
C107	D4
C108	D3
C109	D3
C110	D3
C111	D3
C112	D2
C113	D2
C114	E3
C115	D2
C116	E3
C117	D3
C118	E3
C119	D3
C120	E3
C121	E3
C122	F3
C123	E3
C124	F3
C125	F4
C126	E3
C127	D4
C128	E3
C129	E4
C130	D5
C131	E4
C132	E5
C133	G3
C134	H3
C135	H2
C136	H1
C137	H2
C138	J2
C139	H1
C140	J3
C141	J2
C142	H1
C143	H1
C144	J2
C145	J2
C146	F5
C147	G4
C148	F5
C149	A4
C151	B5
C152	B5
C153	B5
C154	B5
C155	E5
C156	E5
C157	E5
C158	F5
C159	F4
C160	G5
C161	G5
C162	G5
C163	G4
C164	F4
C165	G5
C166	G4
C167	G3
C168	G4
C169	G3
C170	G3
C171	F4
C172	E2
C174	G3
C175	F3
C176	E2
C177	E2
C178	E3
C179	F4
C180	F4
C181	A4
C182	A5
C183	C5
C189	G3
C192	D5
C193	J3
C194	J3
C195	E1
C196	E1
C197	D3
C198	D3
C199	F4
C241	C4
C242	C3
C243	H3
C244	H3
D100	D3
D101	D3
D102	D3
D103	D3
D109	C4
D110	C4
D111	F1
D112	F1
D113	E1
IC100	E4
IC101	G1
IC102	H2
IC103	B5
IC104	C4
IC105	F2
IC106	E2
IC107	D2
IC108	A5
IC109	C3
L100	D3
L101	D2
L102	F5
L103	G4
L104	F5
L105	F4
L106	F4
Q102	D1
Q103	F3
Q104	G3
Q105	H3
Q106	J3
Q107	J3
Q108	G5
Q109	B4
Q110	B4
Q111	B4
Q112	B4
Q113	F5
Q114	F4
Q115	F3
Q116	F1
Q117	F1
Q118	G1
Q119	G1
Q120	F4
Q121	A4
Q122	A4
Q123	A4
Q124	C2
Q125	C3
Q126	C3
Q127	C5
Q128	C5
Q129	B3
Q130	B3
Q131	B3
Q132	B3
Q135	E1
Q136	J3
Q137	G1
Q138	G1
Q139	H3
R108	E1
R109	E1
R110	D1
R111	D4
R112	C4
R113	C4
R114	C4
R115	C3
R116	C3
R117	D3
R118	C3
R119	D2
R120	D3
R121	E3
R122	E2
R123	E2
R125	E3
R126	E3
R127	E3
R128	F3
R129	F3
R130	F3
R131	F4
R132	F4
R133	D4
R134	D4
R135	E3
R136	E4
R137	D5
R138	D5
R139	E5
R140	E5
R141	E5
R142	H1
R143	J1
R144	G3
R145	G3
R146	H2
R147	H2
R148	G1
R149	G1
R150	H1
R151	H1
R152	H1
R153	J1
R154	H1
R155	H2
R156	H1
R157	J1
R158	H3
R159	J4
R160	J2
R161	J2
R162	J2
R163	H2
R164	H1
R165	H1
R166	J1
R167	J1
R168	G4
R169	H4
R170	G4
R171	G5
R172	B4
R173	B4
R174	A5
R175	A5
R176	A5
R177	A3
R178	B4
R179	B4
R180	B4
R181	B4
R183	E5
R184	E5
R185	E5
R186	E5
R187	F5
R189	G4
R190	G4
R191	G3
R192	G3
R193	G3
R194	F1
R195	F1
R196	G1
R197	G1
R199	F1
R200	E2
R201	E1
R203	E2
R204	G1
R206	G1
R207	G1
R208	G1
R209	F2
R210	F2
R211	F2
R212	G1
R213	G2
R214	G3
R215	F3
R216	F3
R217	G3
R218	E3
R219	F3
R220	E2
R221	E2
R222	D2
R223	D2
R224	F4
R225	F4
R226	F4
R227	F4

)NENT ADDRESSES

E5	
E5	
F5	
F4	
G5	
G5	
G5	
G4	
F4	
G5	
G4	
G3	
G4	
G3	
G3	
F4	
E2	
G3	
F3	
E2	
E2	
E3	
F4	
F4	
A4	
A5	
C5	
G3	
D5	
J3	
J3	
E1	
E1	
D3	
D3	
F4	
C4	
C3	
H3	
H3	
D3	
D3	
D3	
D3	
C4	
C4	
F1	
F1	
E1	
E4	
G1	
H2	
B5	
C4	

IC105	F2
IC106	E2
IC107	D2
IC108	A5
IC109	C3
L100	D3
L101	D2
L102	F5
L103	G4
L104	F5
L105	F4
L106	F4
Q102	D1
Q103	F3
Q104	G3
Q105	H3
Q106	J3
Q107	J3
Q108	G5
Q109	B4
Q110	B4
Q111	B4
Q112	B4
Q113	F5
Q114	F4
Q115	F3
Q116	F1
Q117	F1
Q118	G1
Q119	G1
Q120	F4
Q121	A4
Q122	A4
Q123	A4
Q124	C2
Q125	C3
Q126	C3
Q127	C5
Q128	C5
Q129	B3
Q130	B3
Q131	B3
Q132	B3
Q135	E1
Q136	J3
Q137	G1
Q138	G1
Q139	H3
R108	E1
R109	E1
R110	D1
R111	D4
R112	C4
R113	C4

R114	C4
R115	C3
R116	C3
R117	D3
R118	C3
R119	D2
R120	D3
R121	E3
R122	E2
R123	E2
R125	E3
R126	E3
R127	E3
R128	F3
R129	F3
R130	F3
R131	F4
R132	F4
R133	D4
R134	D4
R135	E3
R136	E4
R137	D5
R138	D5
R139	E5
R140	E5
R141	E5
R142	H1
R143	J1
R144	G3
R145	G3
R146	H2
R147	H2
R148	G1
R149	G1
R150	H1
R151	H1
R152	H1
R153	J1
R154	H1
R155	H2
R156	H1
R157	J1
R158	H3
R159	J4
R160	J2
R161	J2
R162	J2
R163	H2
R164	H1
R165	H1
R166	J1
R167	J1
R168	G4

R169	H4
R170	G4
R171	G5
R172	B4
R173	B4
R174	A5
R175	A5
R176	A5
R177	A3
R178	B4
R179	B4
R180	B4
R181	B4
R183	E5
R184	E5
R185	E5
R186	E5
R187	F5
R189	G4
R190	G4
R191	G3
R192	G3
R193	G3
R194	F1
R195	F1
R196	G1
R197	G1
R199	F1
R200	E2
R201	E1
R203	E2
R204	G1
R206	G1
R207	G1
R208	G1
R209	F2
R210	F2
R211	F2
R212	G1
R213	G2
R214	G3
R215	F3
R216	F3
R217	G3
R218	E3
R219	F3
R220	E2
R221	E2
R222	D2
R223	D2
R224	F4
R225	F4
R226	F4
R227	F4

R228	F4
R229	A4
R230	A4
R231	A5
R232	A5
R233	A4
R234	A4
R235	A4
R236	A5
R237	C2
R238	C2
R239	C3
R240	C3
R241	C4
R242	C5
R243	C5
R244	B4
R245	B3
R246	B3
R247	B4
R248	B3
R249	C4
R250	F2
R251	F2
R252	F2
R253	E2
R260	C4
R261	C5
R262	E1
R263	E1
R264	C3
R265	J3
R266	J3
R267	J3
R268	H3
R270	J4
R271	D4
R272	E4
R273	B3
SK100	J3
TU100	H4
XT100	D5
XT101	F3

1

A

PC

B

C

D

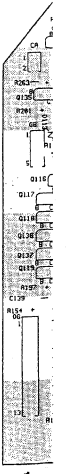
E

F

G

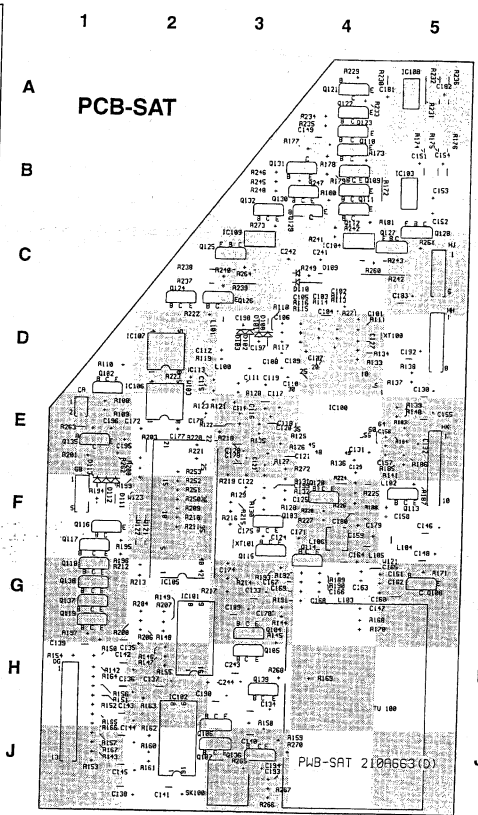
H

J

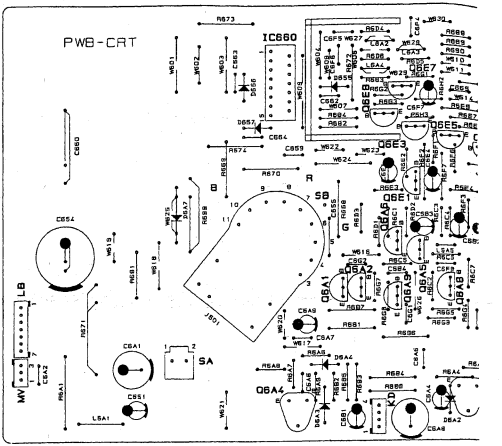


1

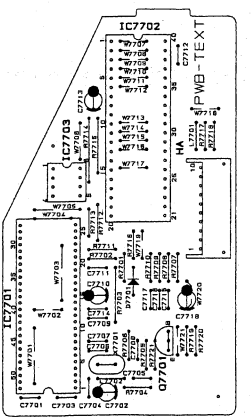
R228	F4
R229	A4
R230	A4
R231	A5
R232	A5
R233	A4
R234	A4
R235	A4
R236	A5
R237	C2
R238	C2
R239	C3
R240	C3
R241	C4
R242	C5
R243	C5
R244	B4
R245	B3
R246	B3
R247	B4
R248	B3
R249	C4
R250	F2
R251	F2
R252	F2
R253	E2
R260	C4
R261	C5
R262	E1
R263	E1
R264	C3
R265	J3
R266	J3
R267	J3
R268	H3
R270	J4
R271	D4
R272	E4
R273	B3
SK100	J3
TU100	H4
XT100	D5
XT101	F3



PCB CRT	
D655	Q6A4
D656	Q6A5
D657	Q6A6
IC660	Q6A7
J601	Q6A8
R671	Q6A9
D6A1	Q6E1
D6A2	Q6E2
D6A3	Q6E3
D6A4	Q6E4
D6A7	Q6E5
L6A1	Q6E6
L6A2	Q6E7
L6A3	Q6E8
L6A4	R6B4
L6A5	R6B6
Q6A1	R6B7
Q6A2	R6B8
Q6A3	

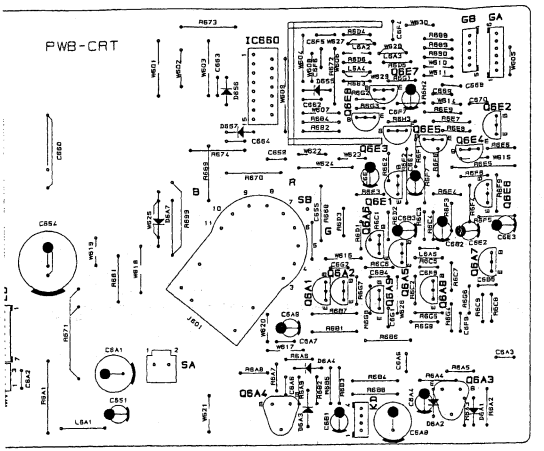


PCB TEXT
IC7701
IC7702
Q7701
D7701
L7701
L7702
X7701



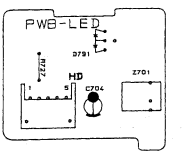
PCB POWER SUB
C991
C993
F991
L991
L992
L993
L994
L995
L996
L997
L998
R991
R992
R993
RP991
S991

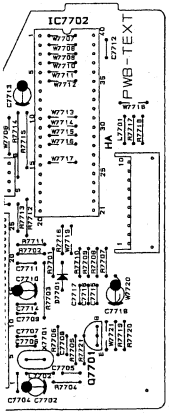
PCB L
D791
Z701



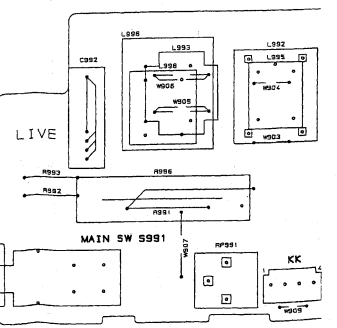
PCB SOUND
D302
D303
D304
IC301
J352
L301
L302
L303
L304
L305
L308
L309
L311
Q302
Q303
Q303
Q304
Q305
Q306
Q307
Q308
X301

PCB LED
D791
Z701

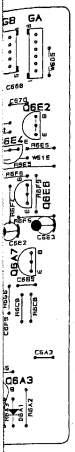


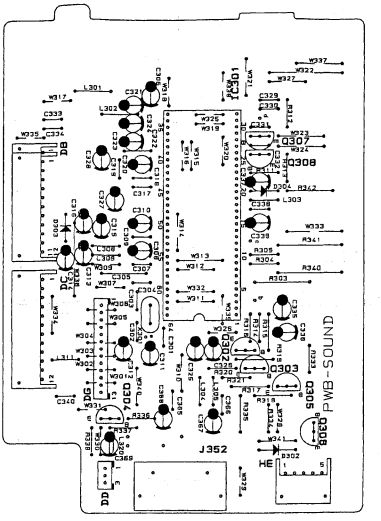


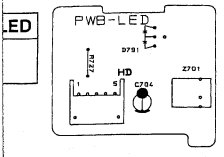
PCB POWER SUB
C991
C993
F991
L991
L992
L993
L994
L995
L996
L997
L998
R991
R992
R993
RP991
S991

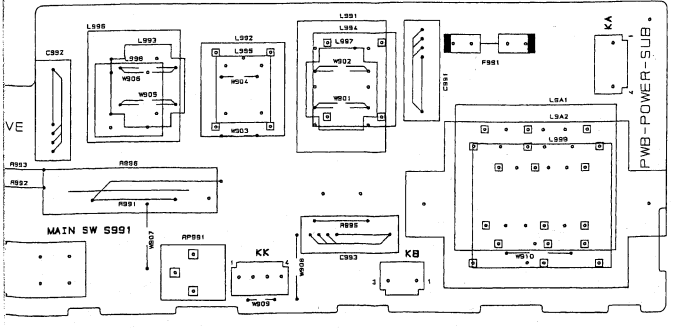


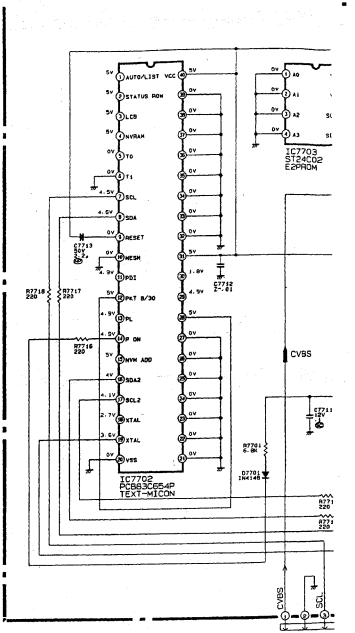
PCB SOUND
D302
D303
D304
IC301
J352
L301
L302
L303
L304
L305
L308
L309
L311
Q302
Q303
Q303
Q304
Q305
Q306
Q307
Q308
X301

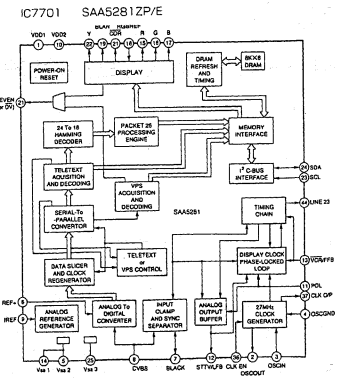


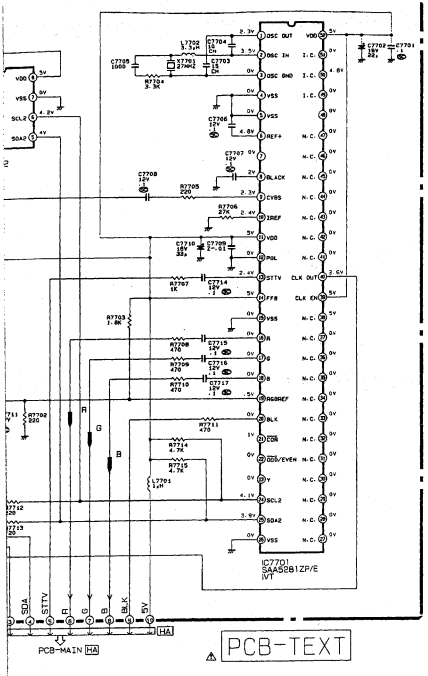


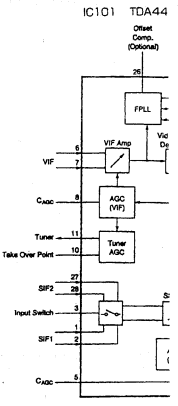


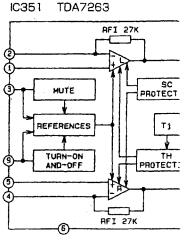



IC7703
ST24C02
E2PROM
IC7702
PCB83C654P
TEXT-MICON
CVBS
SCL
SDA

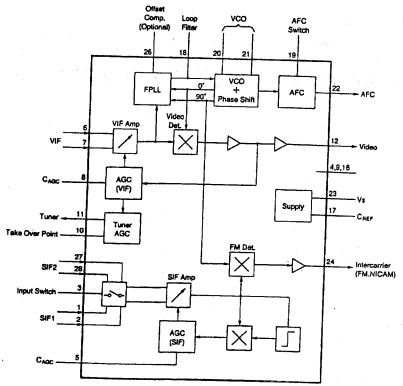

IC7701 SAA5281ZP/E
VDD1
VDD2
BLUR
TRANSPARENT OUT
R
G
B
POWER-ON RESET
DISPLAY
DRAM REFRESH AND TIMING
8K X 8 DRAM
CODEVEN (or DV)
24 To 18 HAMMING DECODER
PACKET 26 PROCESSING ENGINE
MEMORY INTERFACE
TELETEXT ADQUISITION AND DECODING
VPS ACQUISITION AND DECODING
I² C-BUS INTERFACE
SDA
SCL
SAA5281
SERIAL-To -PARALLEL CONVERTOR
TIMING CHAIN
LINE 23
TELETEXT or VPS CONTROL
DISPLAY CLOCK PHASE-LOCKED LOOP
VDR/FFB
DATA SLICER AND CLOCK REGENERATOR
POL
CLK OP
REF+
IREF
ANALOG REFERENCE GENERATOR
ANALOG To DIGITAL CONVERTER
INPUT CLAMP AND SYNC SEPARATOR
ANALOG OUTPUT BUFFER
27MHz CLOCK GENERATOR
OSCGND
Vaa 1
Vaa 2
Vaa 3
CVBS
BLACK
STTVU/FB
CLK EN
OSCOUT
OSCIN


IC7701
SAA5281ZP/E
(VT)
PCB-MAIN HA
PCB-TEXT

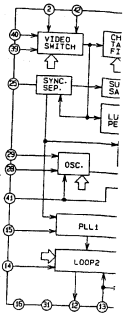

IC101 TDA44
Offset
Comp.
(Optional)
FPLL
VIF Amp
VIF
AGC
(VIF)
Tuner
AGC
Tuner
Take Over Point
SIF2
Input Switch
SIF1


IC351 TDA7263
RFI 27K
MUTE
REFERENCES
TURN-ON
AND-OFF
RFI 27K

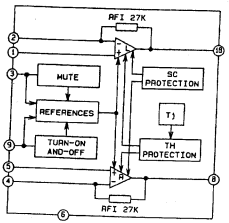
IC101 TDA4472-A



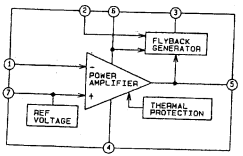
IC201 MC44031



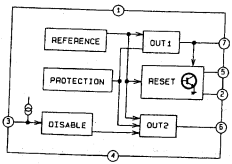
IC351 TDA7263



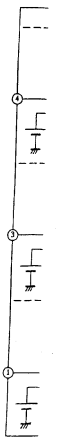
IC401 TDA8171



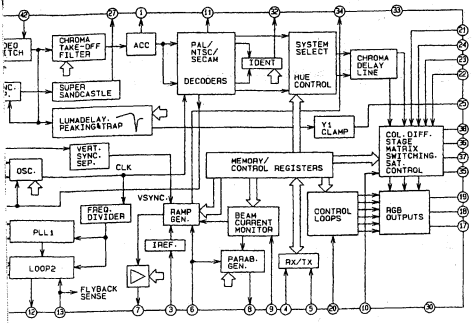
IC951 TDA8137



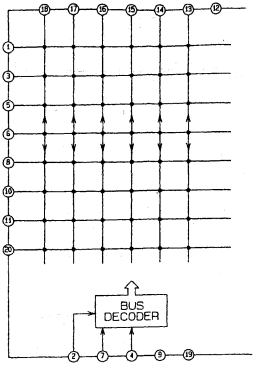
IC66(



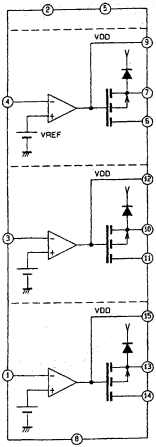
MC44031



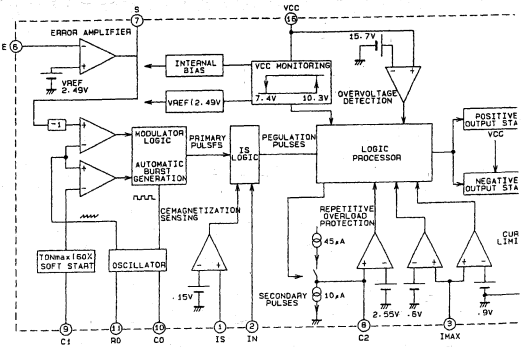
IC202 TEA6415C



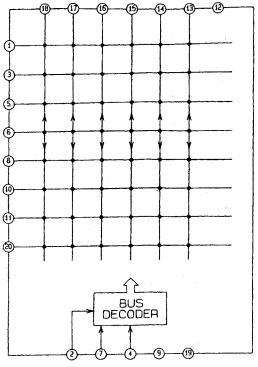
IC650 TEA5101

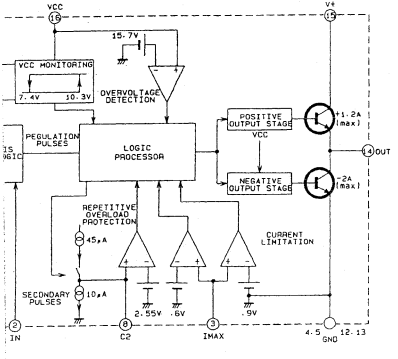


IC901 TEA2261



IC202 TEA6415C





⚠ PCB- VIDEOCRYPT

VideoCrypt Decoder

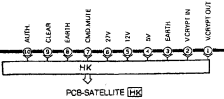
The VideoCrypt decoder PBC is only serviceable by Mitsubishi service department.

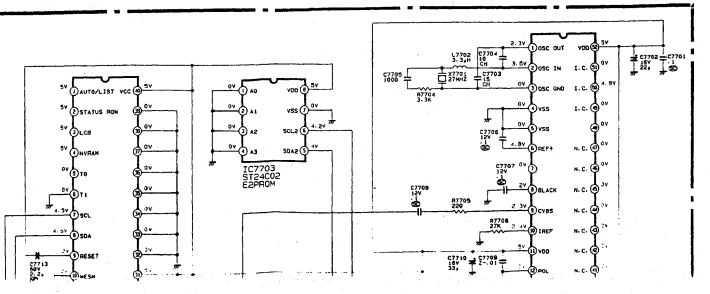
In the event of a fault on this PCB, please follow this procedure:

1. Contact the Mitsubishi consumer spares department to request an advance replacement VideoCrypt decoder PCB.
2. Upon receipt of the replacement PCB, complete the enclosed form and return it with the faulty PCB, in the packaging provided.

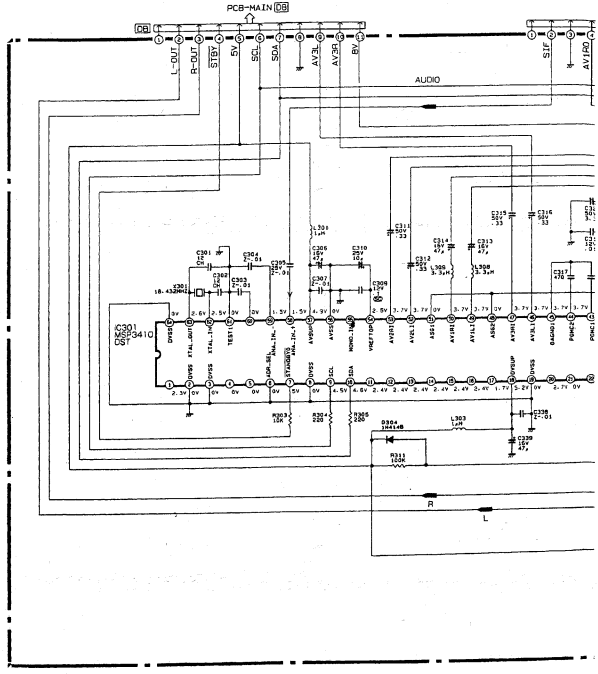
Failure to return the PCB within 30 days will incur full replacement PCB costs.

NOTE
The plastic PCB frame, connecting lead and fixing screw should be retained as the replacement PCB is supplied *without* these items.

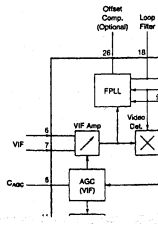




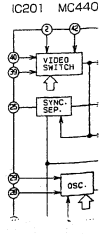
⚠ PCB-SOUND

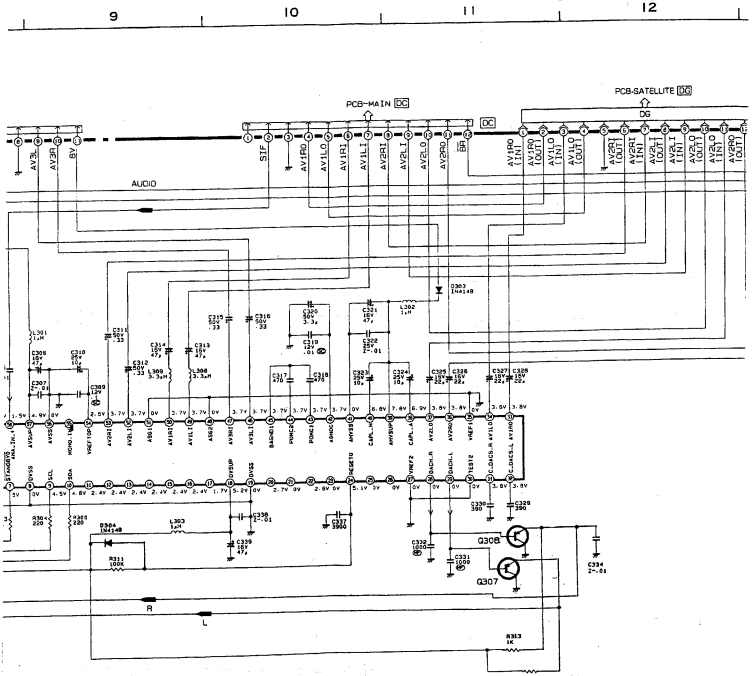


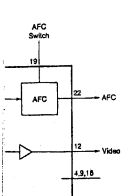
IC101 TDA4472-A



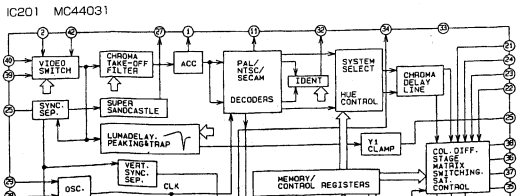
IC201 MC440

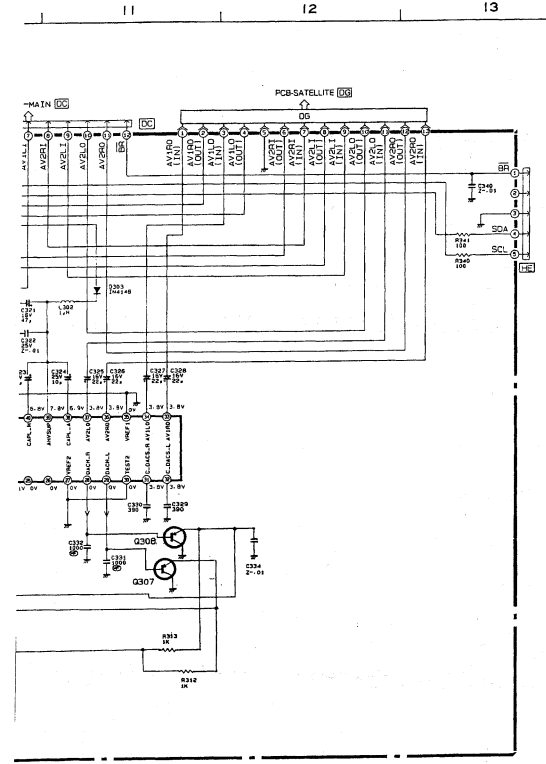


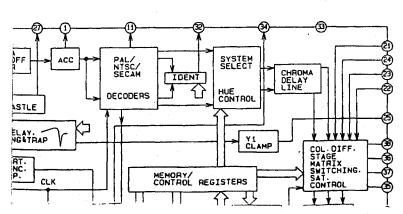




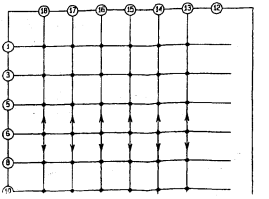
IC201 MC44031

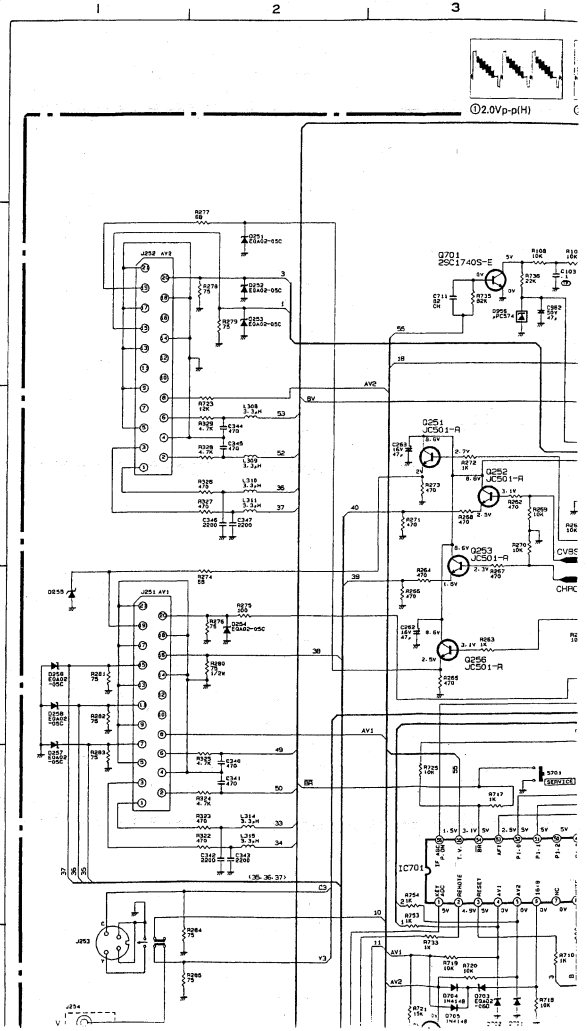


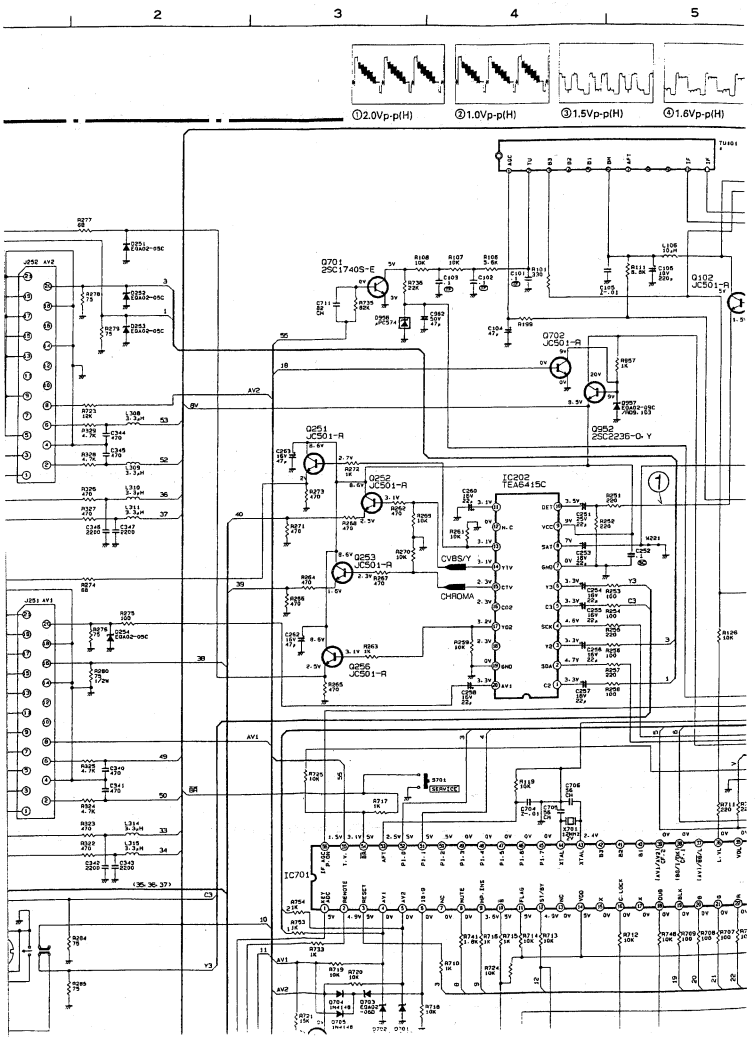


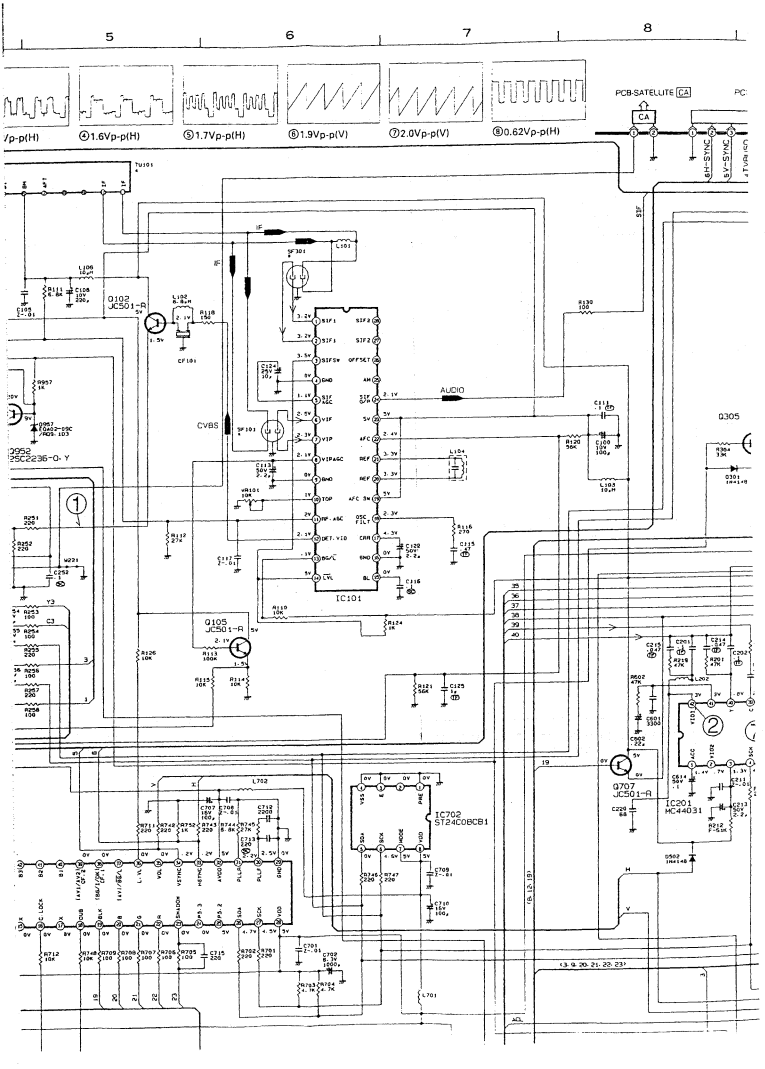


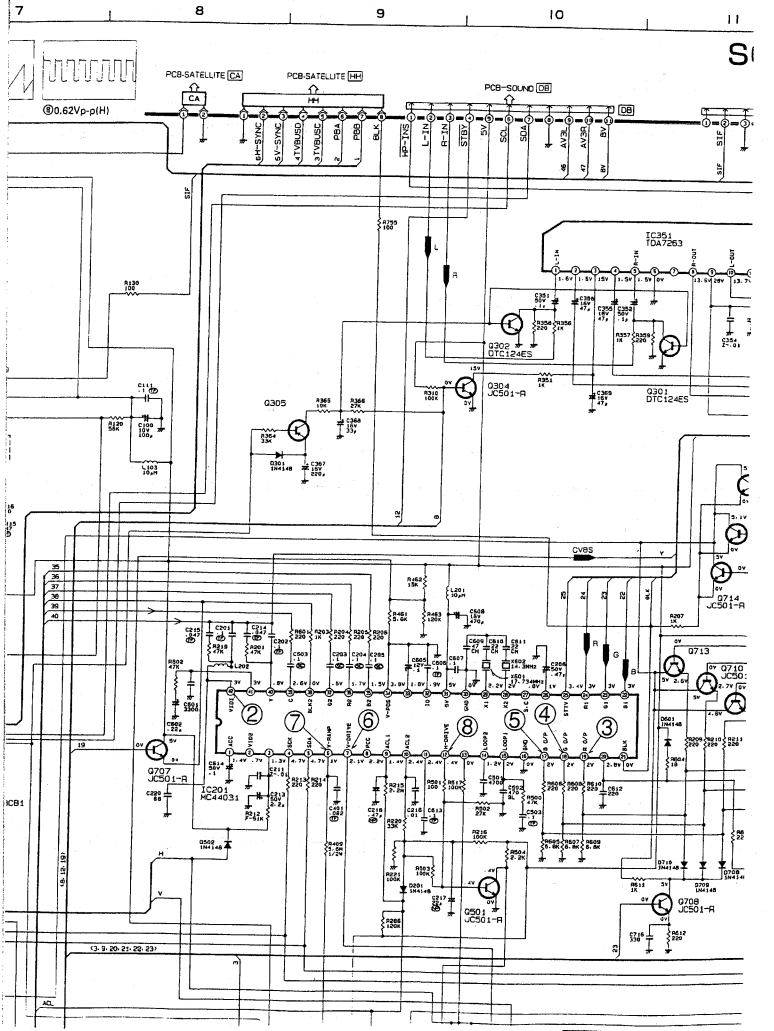
IC202 TEA6415C



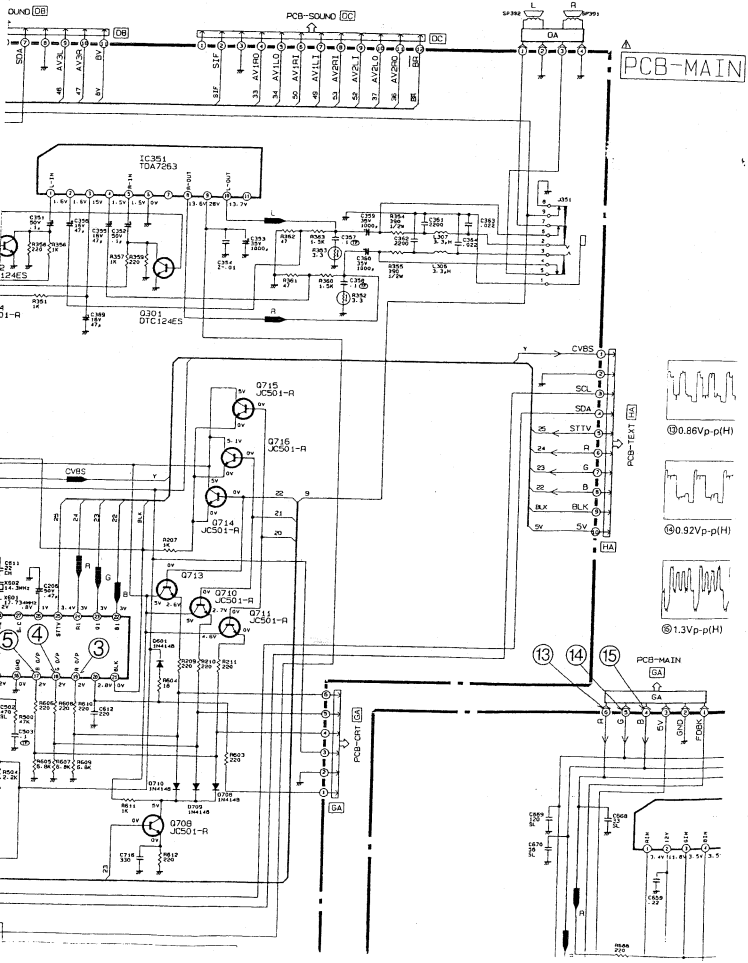

1
2
3
A
B
C
D
E
F
①2.0Vp-p(H)
Q701
2SC1740S-E
Q251
JC501-A
Q252
JC501-A
Q253
JC501-A
Q255
Q256
JC501-A
IC701
J251 AV1
J252 AV2
J253
J254
AV1
AV2
SERVICE
CHROMA
CVBS


2
3
4
5
①2.0Vp-p(H)
②1.0Vp-p(H)
③1.5Vp-p(H)
④1.6Vp-p(H)
IC701
IC202
TEA6415C
CVBS/Y
CHROMA
SERVICE
Q701
2SC1740S-E
Q702
JC501-A
Q102
JC501-A
Q251
JC501-A
Q252
JC501-A
Q253
JC501-A
Q256
JC501-A
Q952
2SC2236-O-Y
J252 AV2
J251 AV1
AV1
AV2
Y3
C3


5
6
7
8
④1.6Vp-p(H)
⑤1.7Vp-p(H)
⑥1.9Vp-p(V)
⑦2.0Vp-p(V)
⑧0.62Vp-p(H)
PCB-SATELLITE CA
CA
IC101
IC702
ST24C08CB1
IC201
MC44031
Q102
2SC2236-O-Y
Q105
2SC2236-O-Y
Q305
2SC2236-O-Y
Q707
2SC2236-O-Y
CVBS
AUDIO
IF


7
8
9
10
11
PCB-SATELLITE CA
PCB-SATELLITE HH
PCB-SOUND DB
⑨0.62Vp-p(H)
CA
HH
DB
HP-DIS
L-IN
R-IN
STBY
SCL
SDA
AVSS
AVSW
8V
SIF
IC351
TDA7263
Q302
DTC124ES
Q304
JC501-A
Q305
Q301
DTC124ES
CVBS
Q714
JC501-R
Q713
Q710
JC501-R
Q707
JC501-R
IC201
MC44031
Q501
JC501-R
Q709
JC501-R
ICB1

SCHEMATIC DIAGRAMS : CT-21AV



AGRAMS : CT-21AV1BS

PCB-MAIN

DIFFERENCE TABLE

	BS
C118	
C119	
C301	
C714	
CF101	6.0MB
CF102	
D101	
D103	
IC101	TDA4472
IC701	Z74F681A10
Q103	
Q104	
Q106	
Q107	
Q108	
R102	
R103	
R110	
R117	
R122	
R123	
R125	
R126	
R199	100
R301	
R711	
R740	
SF101	J3950
SF301	K9350
SF302	
TU101	U1343
VR103	
W117	
W118	
F991	T2A

⑮0.86Vp-p(H)

⑲0.92Vp-p(H)

⑤1.3Vp-p(H)

PCB-MAIN GA

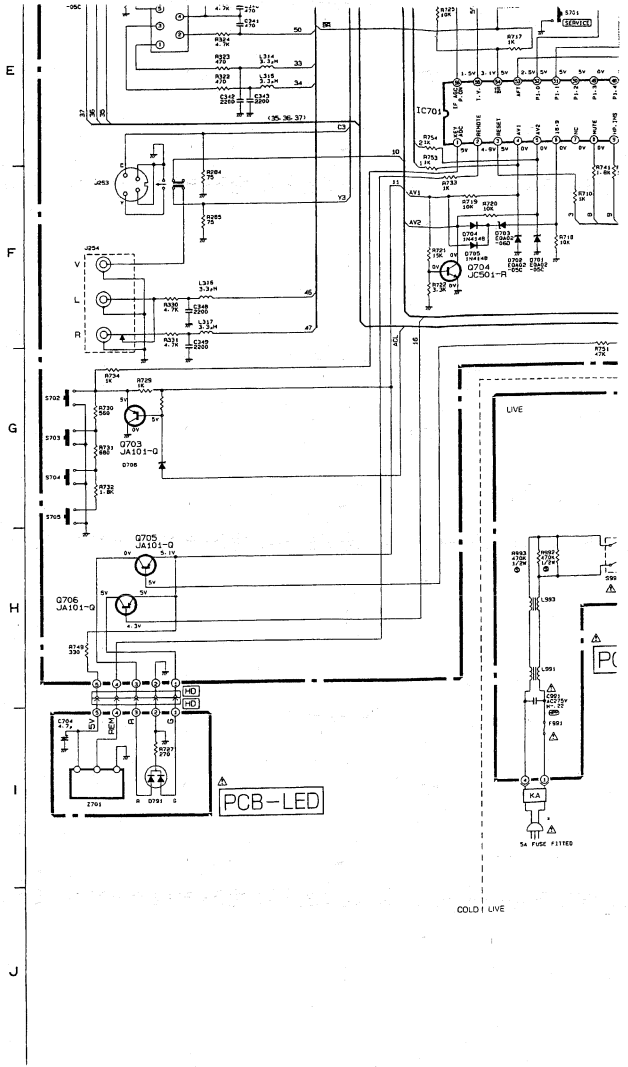
PCB-SATELLITE GB

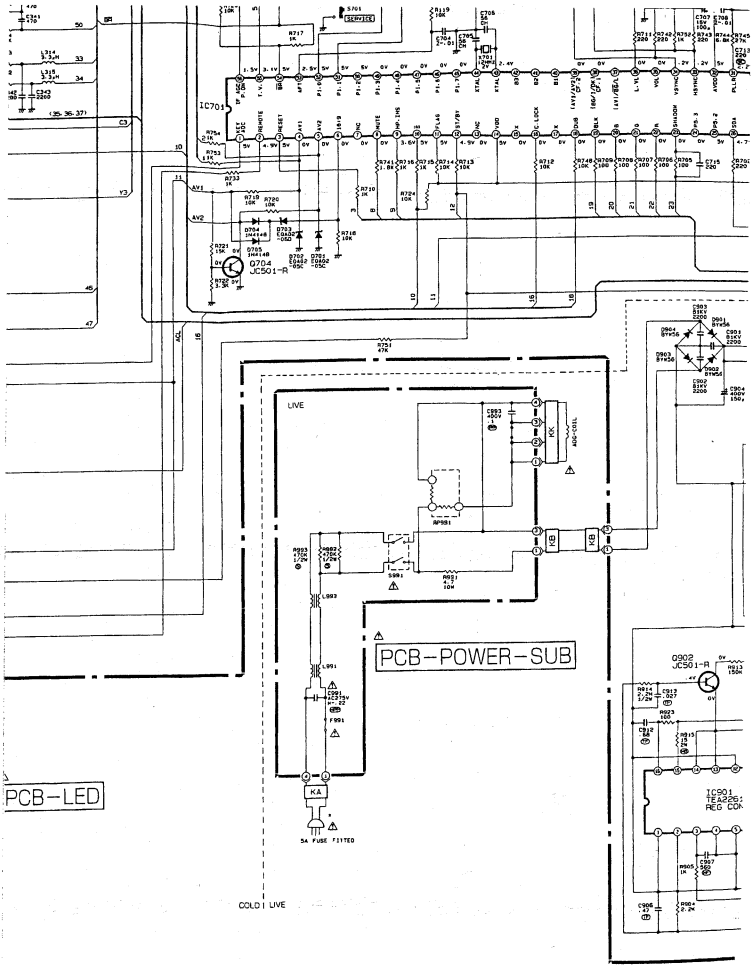
PCB-CRT

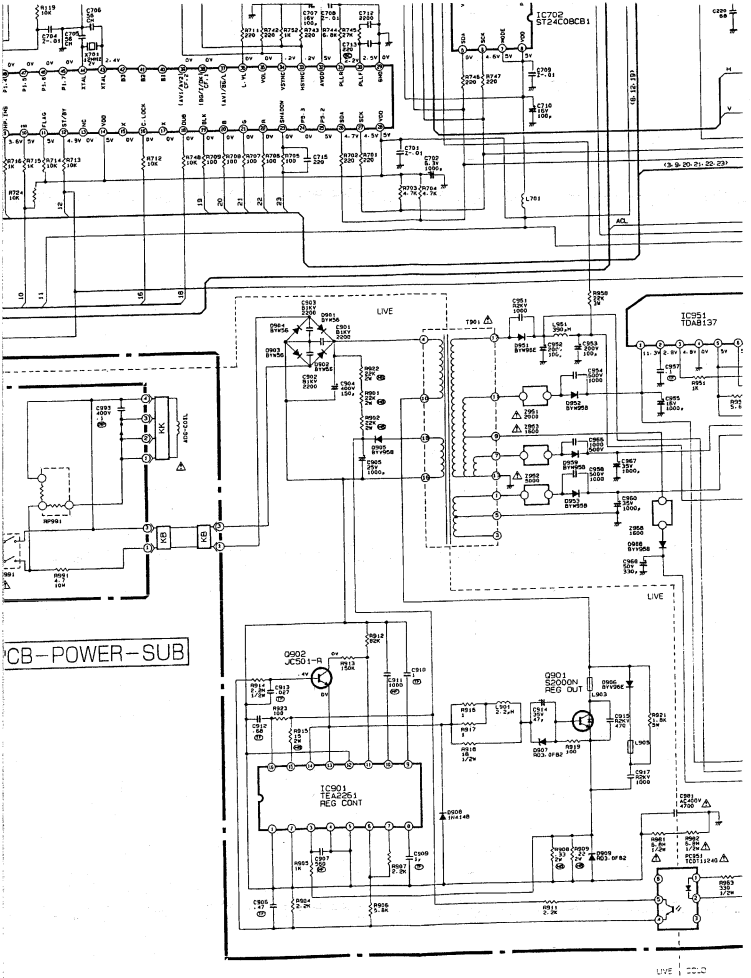
IC660 TEA5101

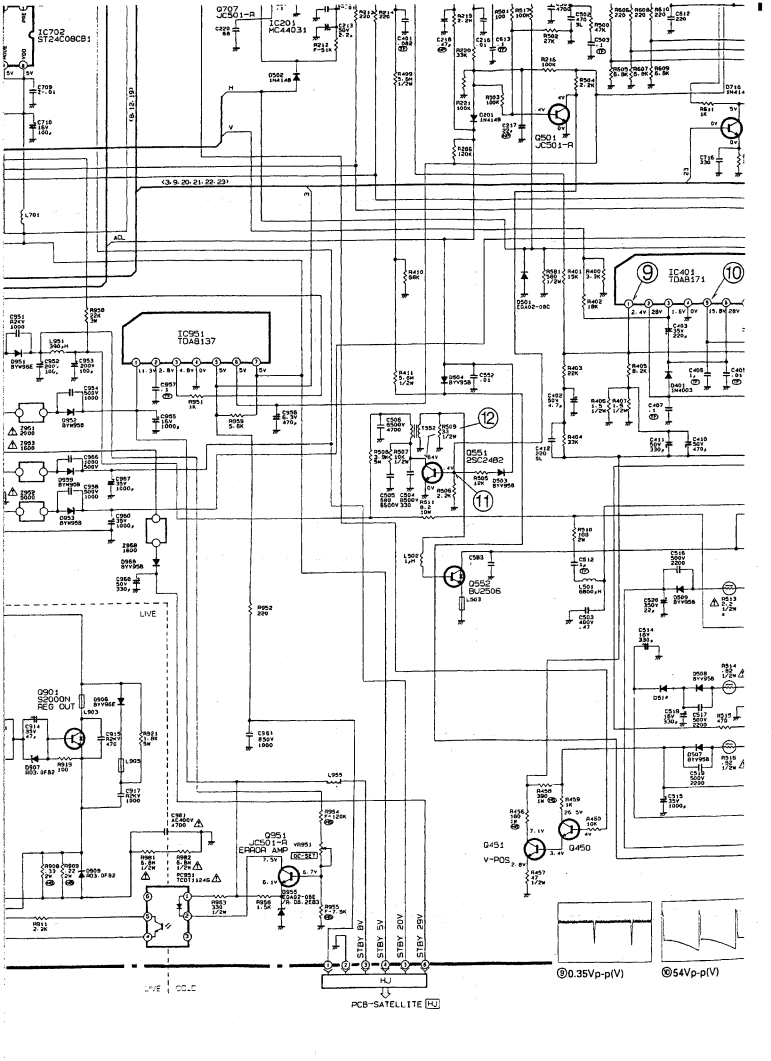
⑱86Vp-p(H)

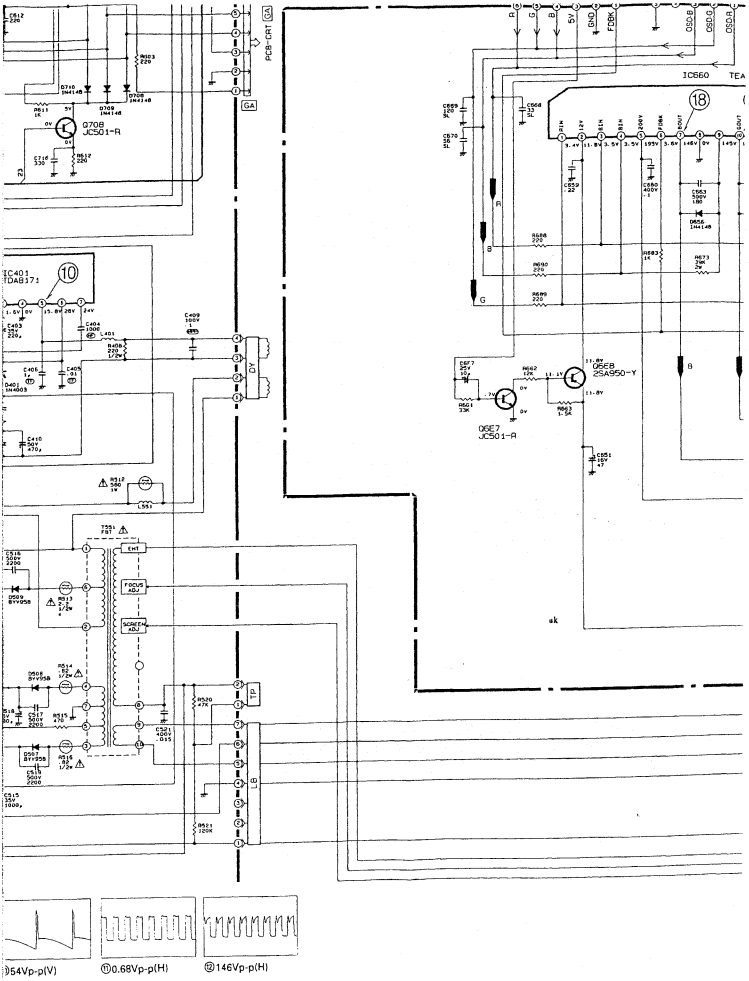
⑰87Vp-p(H)


IC701
Q704
JC501-A
Q703
JA101-Q
Q705
JA101-Q
Q706
JA101-Q
PCB-LED
SERVICE
LIVE
COLD
KA
5A FUSE FITTED


PCB-POWER-SUB
PCB-LED
LIVE
COLD
IC701
Q704
JC501-R
Q902
JC501-R
IC901
TEA226:
REG CON
5A FUSE FITTED


IC702
ST24C08CB1
IC951
TDA8137
LIVE
COLD
CB-POWER-SUB
0902
JC501-R
0901
S2000N
REG OUT
IC901
TEA2261
REG CONT

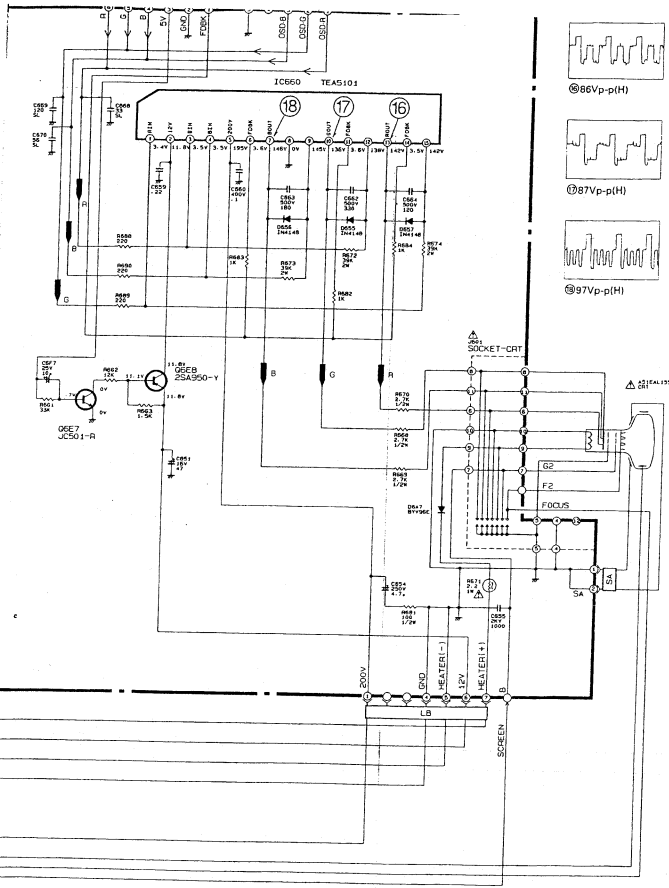

IC702
ST24C08CB1
IC201
MC44031
IC951
TDA8137
IC401
TDA8171
Q501
JC501-A
Q551
2SC2482
Q552
SI2506
Q901
S2000N
Q951
JC501-A
ERROR AMP
Q450
V-POS
LIVE
COLD
PCB-SATELLITE HJ
STBY 8V
STBY 5V
STBY 20V
STBY 28V
⑨0.35Vp-p(V)
⑩54Vp-p(V)

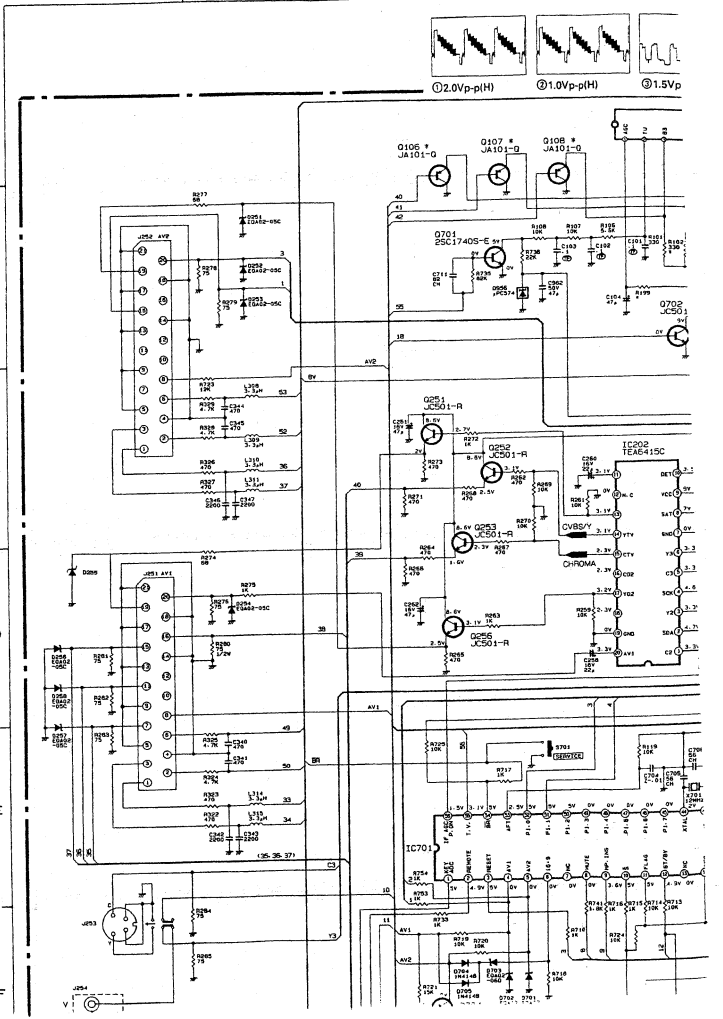


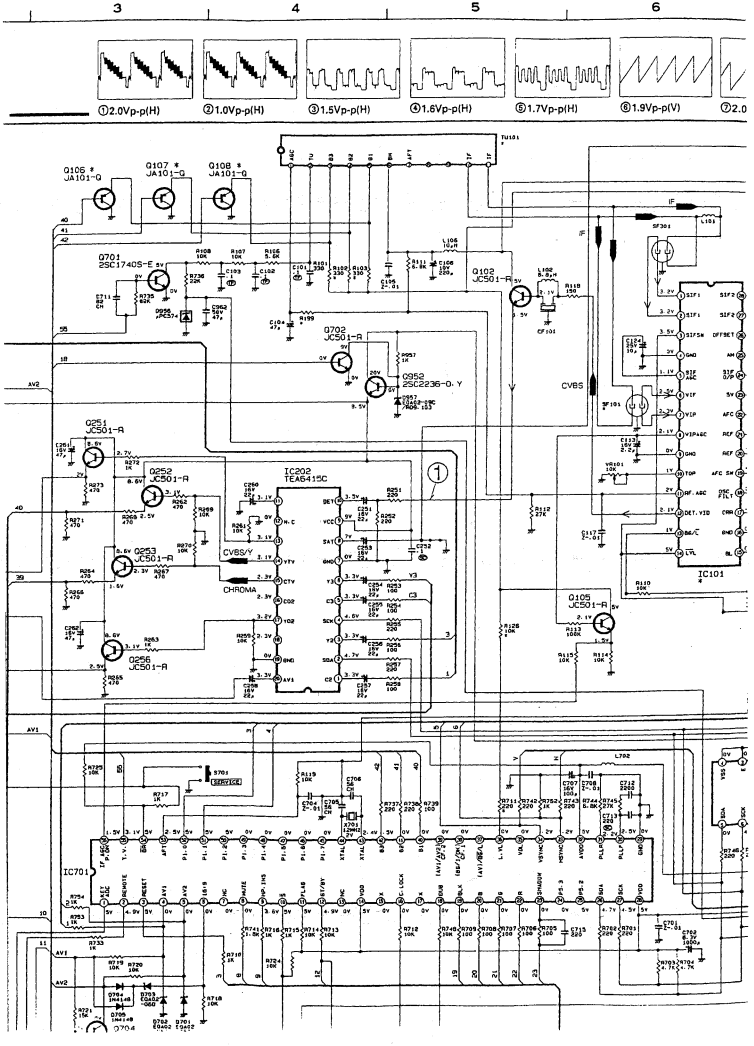
)54Vp-p(V)

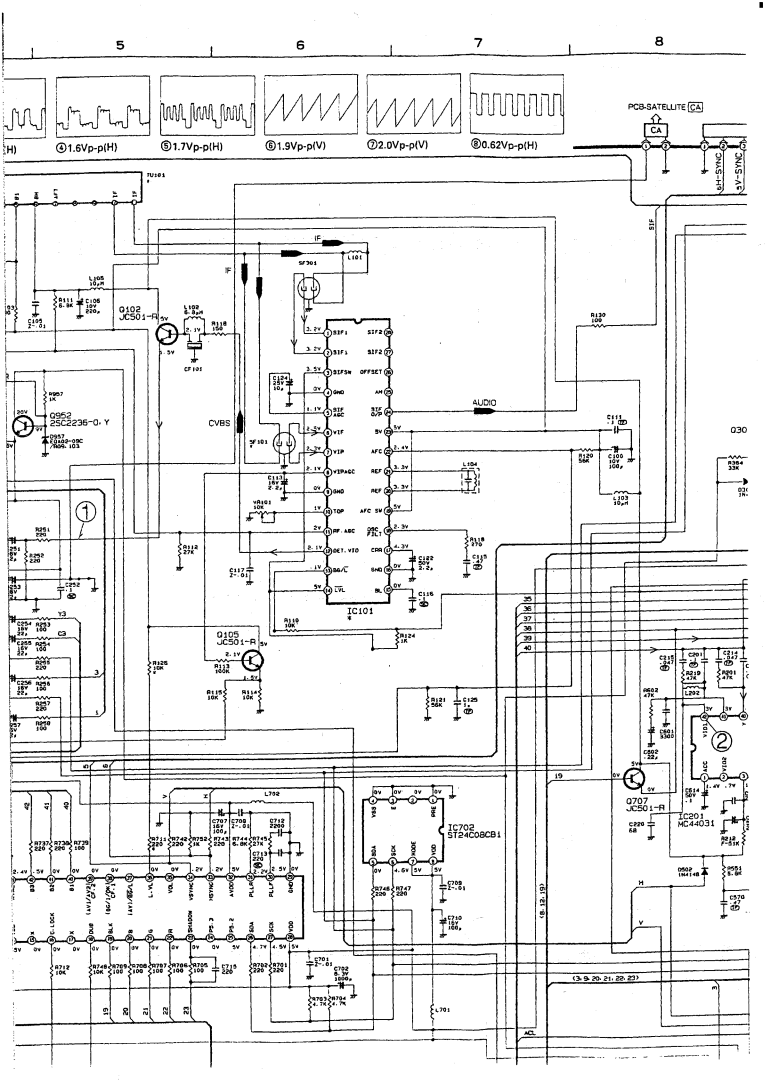
⑪0.68Vp-p(H)

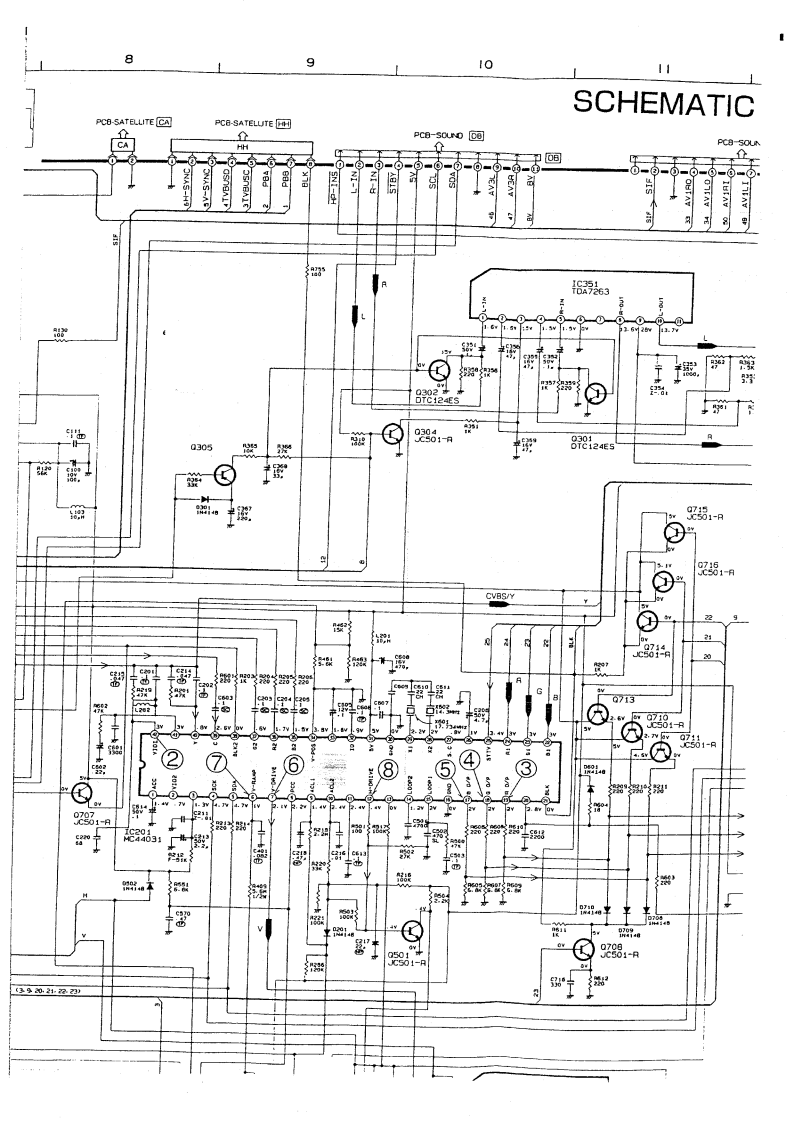
⑫146Vp-p(H)


IC660 TEA5101
18
17
16
SOCKET-CRT
Q6E8 2SA950-Y
Q6E7 JC501-R
F2
FOCUS
G2
SA
SCREEN
LB
200V
GND
HEATER(-)
12V
HEATER(+)
86Vp-p(H)
87Vp-p(H)
97Vp-p(H)

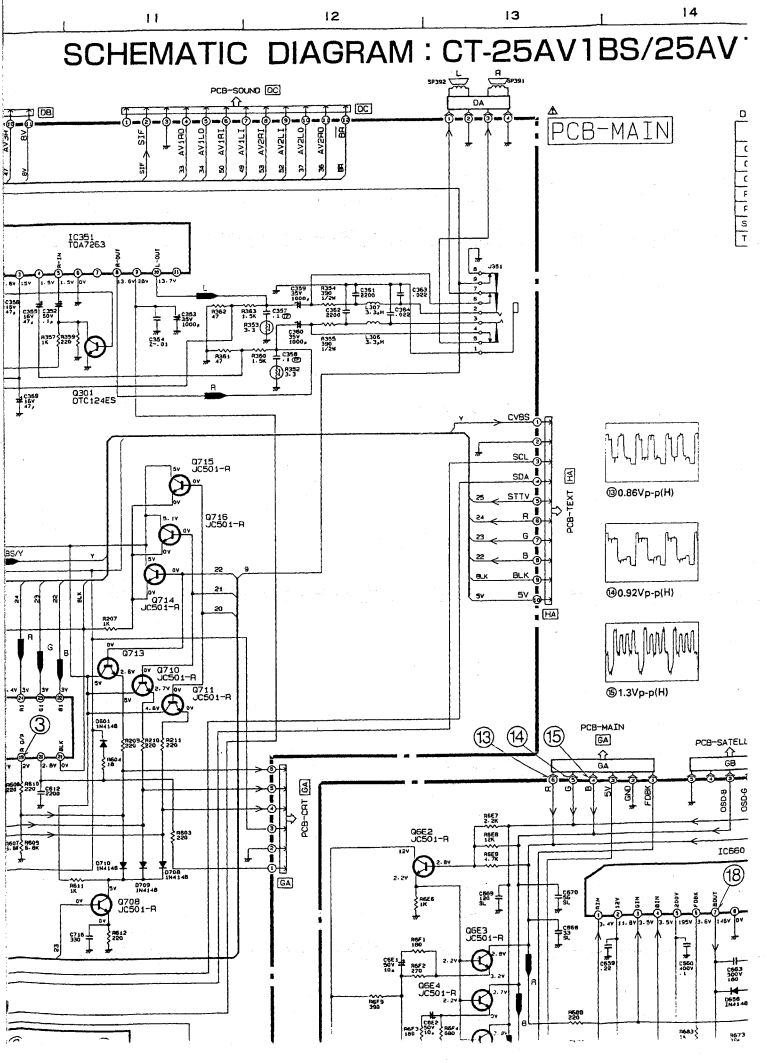

1
2
3
4
A
B
C
D
E
F
①2.0Vp-p(H)
②1.0Vp-p(H)
③1.5Vp
Q106 *
JA101-Q
Q107 *
JA101-Q
Q108 *
JA101-Q
Q701
2SC1740S-E
Q702
JC501
Q251
JC501-R
Q252
JC501-R
Q253
JC501-R
Q255
JC501-R
IC202
TEA6415C
CVBS/Y
CHROMA
IC701
J252 AV2
J251 AV1
J253
J254
R277
D251
D252
D253
D289
D285
D286
D287
D288
D254
D255
D256
D257
D258
D259
D260
D261
D262
D263
D264
D265
D266
D267
D268
D269
D270
D271
D272
D273
D274
D275
D276
D277
D278
D279
D280
D281
D282
D283
D284
D285
R201
R202
R203
R204
R205
R206
R207
R208
R209
R210
R211
R212
R213
R214
R215
R216
R217
R218
R219
R220
R221
R222
R223
R224
R225
R226
R227
R228
R229
R230
R231
R232
R233
R234
R235
R236
R237
R238
R239
R240


3
4
5
6
①2.0Vp-p(H)
②1.0Vp-p(H)
③1.5Vp-p(H)
④1.6Vp-p(H)
⑤1.7Vp-p(H)
⑥1.9Vp-p(V)
⑦2.0
IC202 TEA6415C
IC701
IC101
CVBS/Y
CHROMA
Q701 2SC1740S-E
Q702 JC501-R
Q952 2SC2236-O, Y
Q102 JC501-R
Q105 JC501-R
Q251 JC501-A
Q252 JC501-A
Q253 JC501-A
Q256 JC501-A
Q106 * JA101-Q
Q107 * JA101-Q
Q108 * JA101-Q
TU101 *
L702
L101
CF101
SF301
SF701
IF
CVBS
AV1
AV2

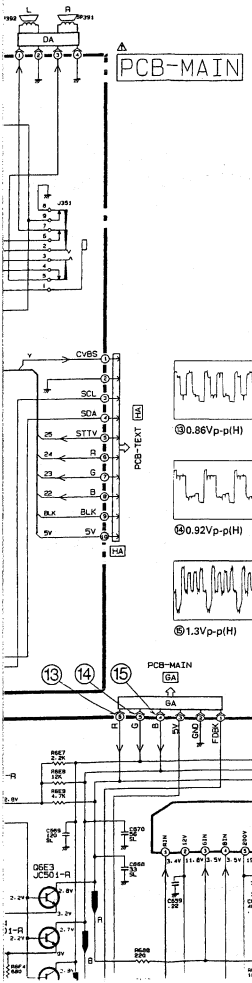

5
6
7
8
④1.6Vp-p(H)
⑤1.7Vp-p(H)
⑥1.9Vp-p(V)
⑦2.0Vp-p(V)
⑧0.62Vp-p(H)
PCB-SATELLITE CA
TU101
IF
SF301
L101
Q102 JC501-R
CF101
SIF1
SIF2
OFFSET
AM
SIF OUT
AUDIO
CVBS
Q952 2SC3236-O, Y
D957 1SS133-(TE85L) 1SS
IC101
VIF
AFC
VSYNAGC
REF
GND
TOP
RF AGC
DET. VIO
SDA/C
SCL
RL
Q105 JC501-R
Q707 JC501-R
IC702 ST24C08CB1
IC201 MC44031
D502 1N4148
L702
L701
(3-9-20-21-22-23)
ACL

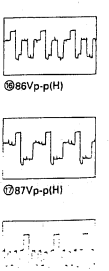

SCHEMATIC
8
9
10
11
PCB-SATELLITE CA
PCB-SATELLITE HH
PCB-SOUND DB
PCB-SOUN
CA
HH
DB
H-SYNC
V-SYNC
TVBUSD
TVBUSC
PBA
PBB
BLK
HP-INS
L-IN
R-IN
STBY
SV
SCL
SDA
AVSS
AVDD
SIF
AV1-R
AV1-L
IC351
TDA7263
Q302
DTC124ES
Q304
JC501-A
Q301
DTC124ES
Q305
CVBS/Y
Q715
JC501-A
Q716
JC501-A
Q714
JC501-A
Q713
Q710
JC501-A
Q711
JC501-A
Q707
JC501-A
IC201
HC44031
Q501
JC501-A
Q708
JC501-A

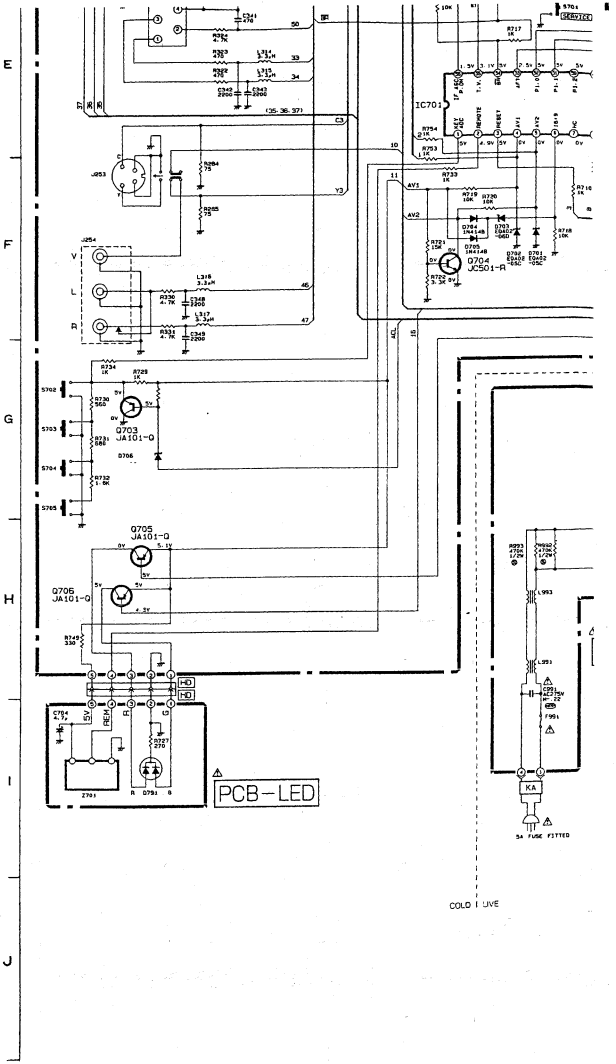
SCHEMATIC DIAGRAM : CT-25AV1BS/25AV

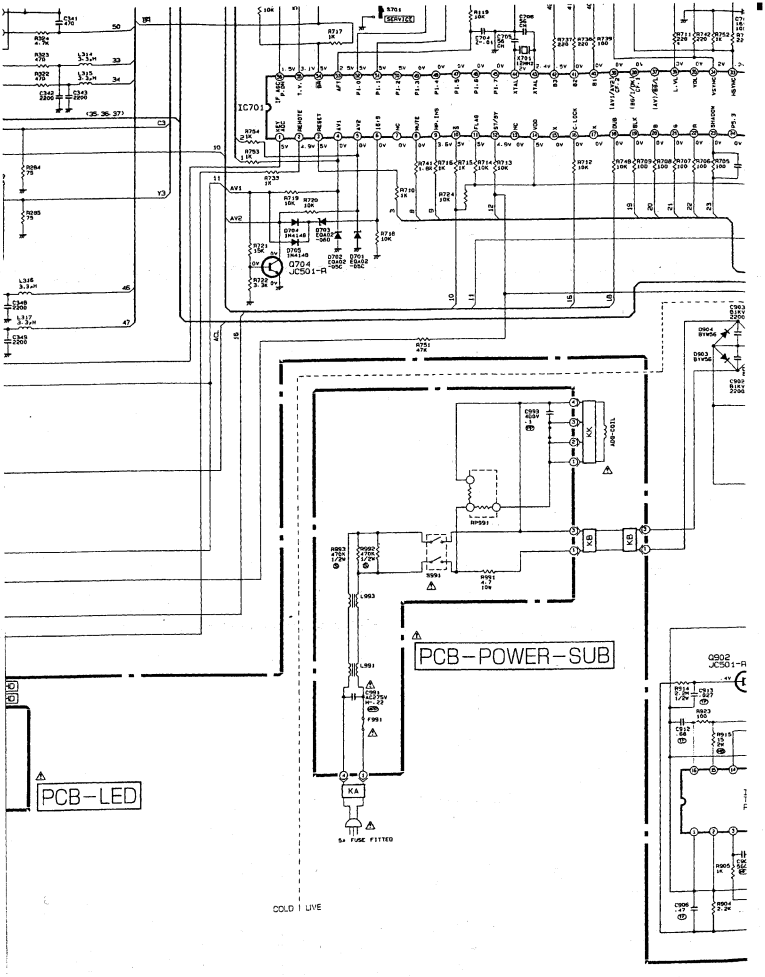


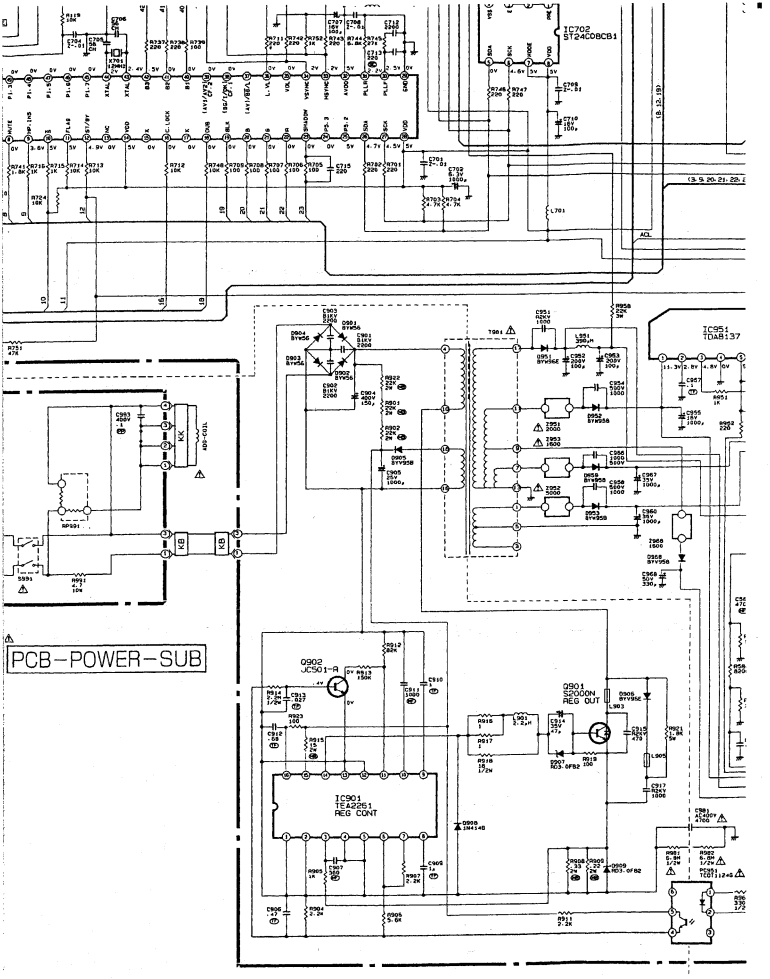
CT-25AV1BS/25AV1LS

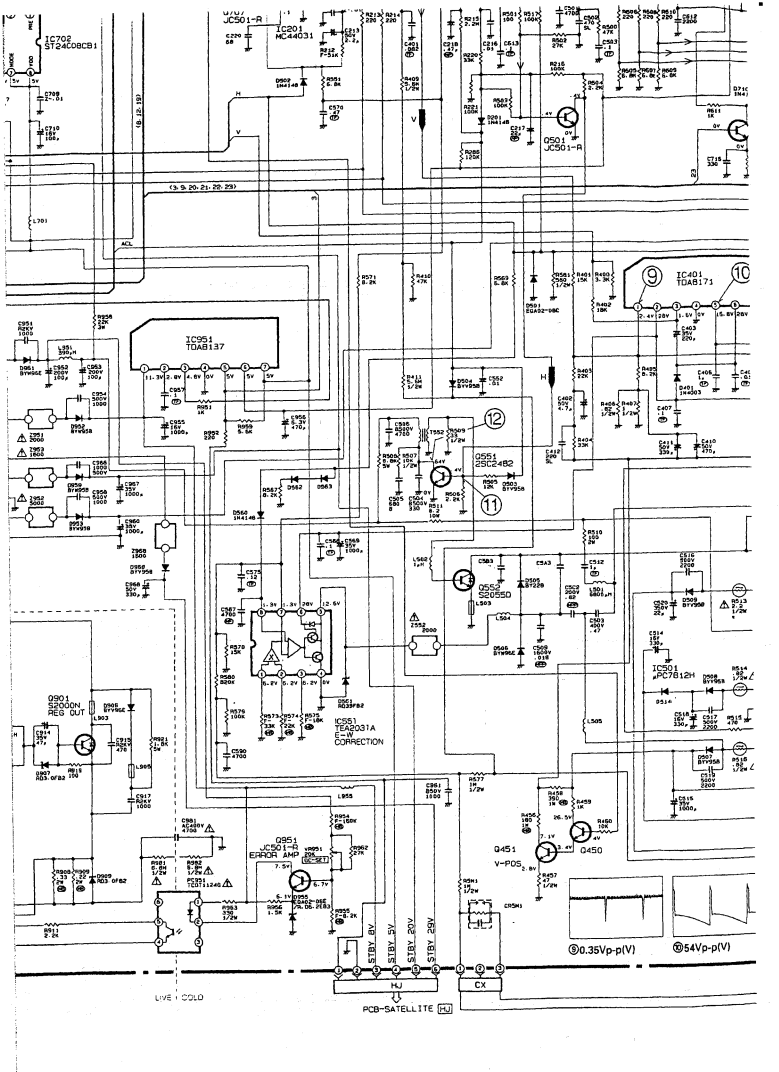


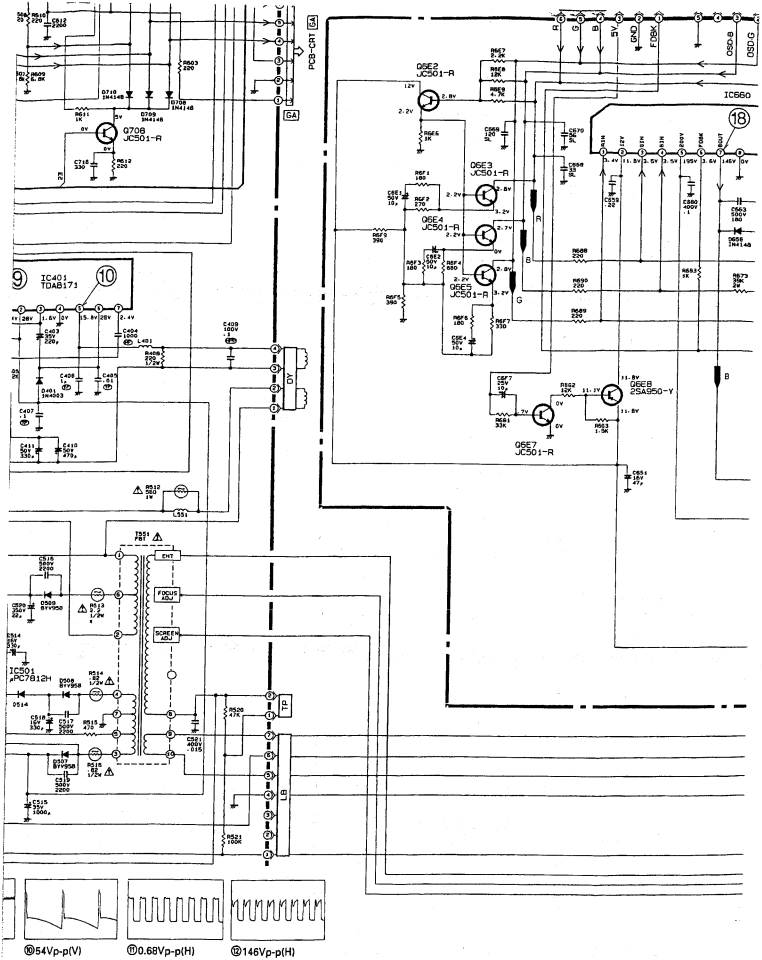



E
F
G
H
I
J
IC701
Q703 JA101-Q
Q705 JA101-Q
Q706 JA101-Q
Q704 JC501-A
PCB-LED
COLD
LIVE
5A FUSE FITTED

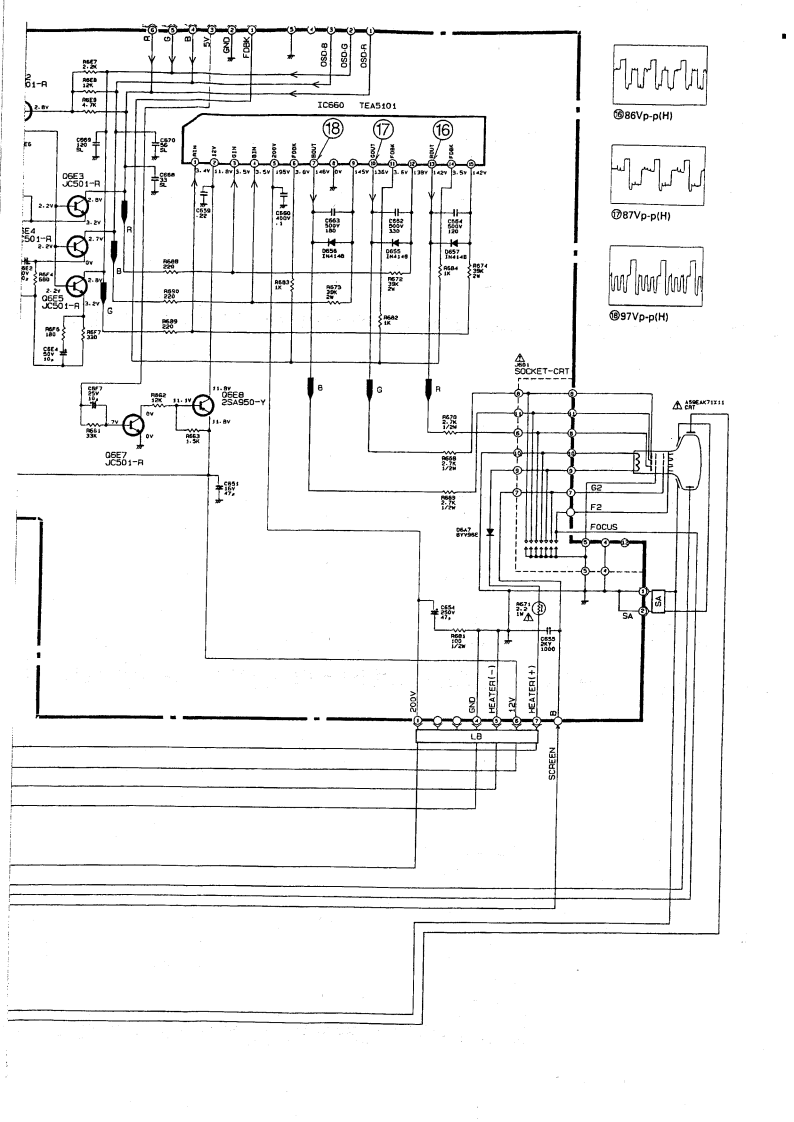

IC701
Q704
JC501-A
Q902
JC501-A
PCB-POWER-SUB
PCB-LED
COLD
LIVE
5A FUSE FITTED
SERVICE

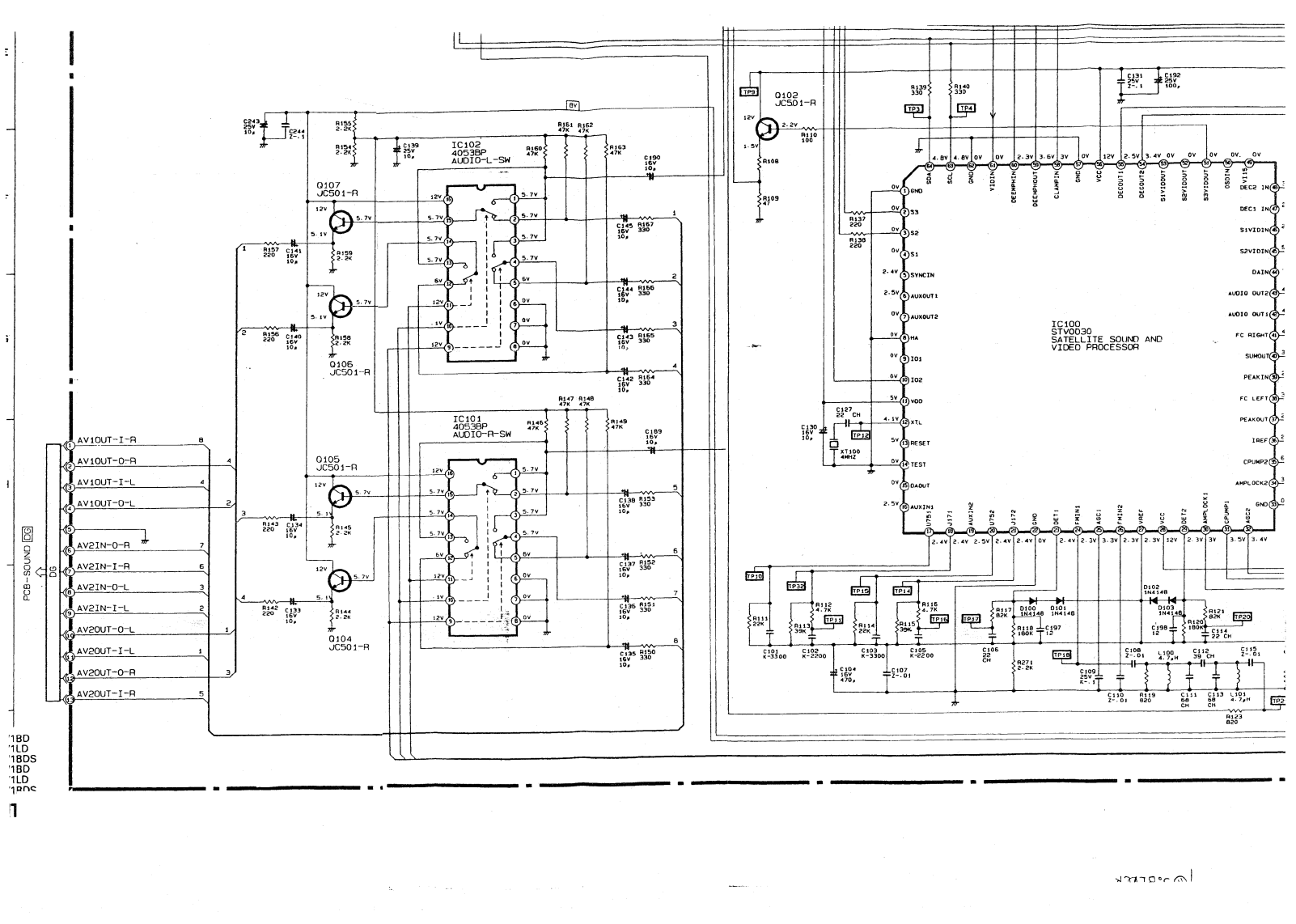

IC702
ST24C08CB1
IC951
TDA8137
PCB-POWER-SUB
Q902
JC501-A
REG OUT
Q904
S2000N
REG OUT
IC901
TEA2261
REG CONT
KK
KB
KB

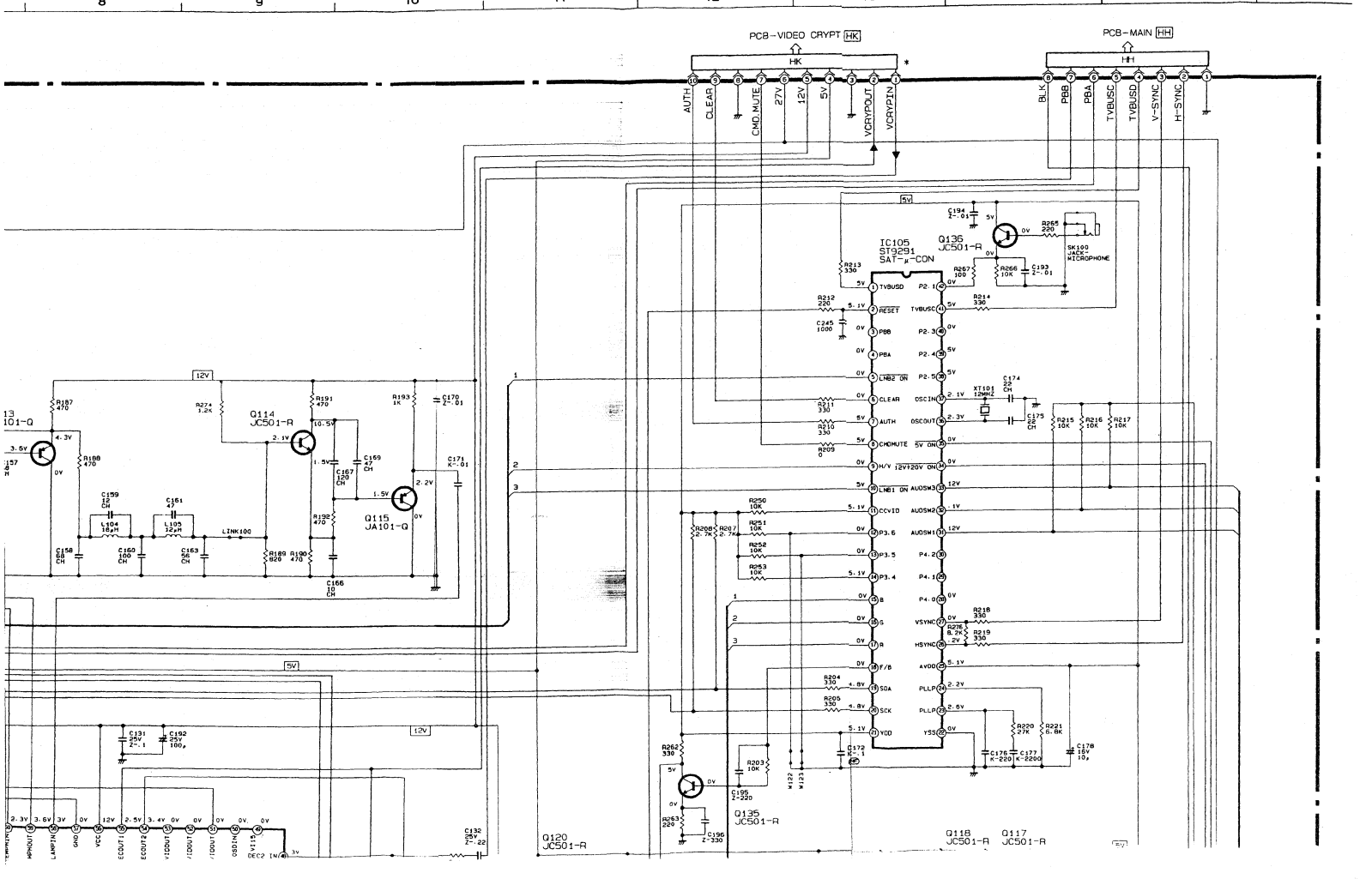

IC702
ST24C08CB1
IC201
MC44031
JC501-R
Q501
JC501-A
IC401
TDA8171
IC251
TDA8137
Q551
2SC2482
Q552
S20550
IC501
PC7812H
Q901
S2000N
RES OUT
IC551
TDA2031A
E-W
CORRECTION
Q951
JC501-B
ERROR AMP
Q451
V-POS
Q450
⑨0.35Vp-p(V)
⑩54Vp-p(V)
STBY 8V
STBY 5V
STBY 20V
STBY 29V
HJ
CX
PCB-SATELLITE HJ
LIVE : COLD

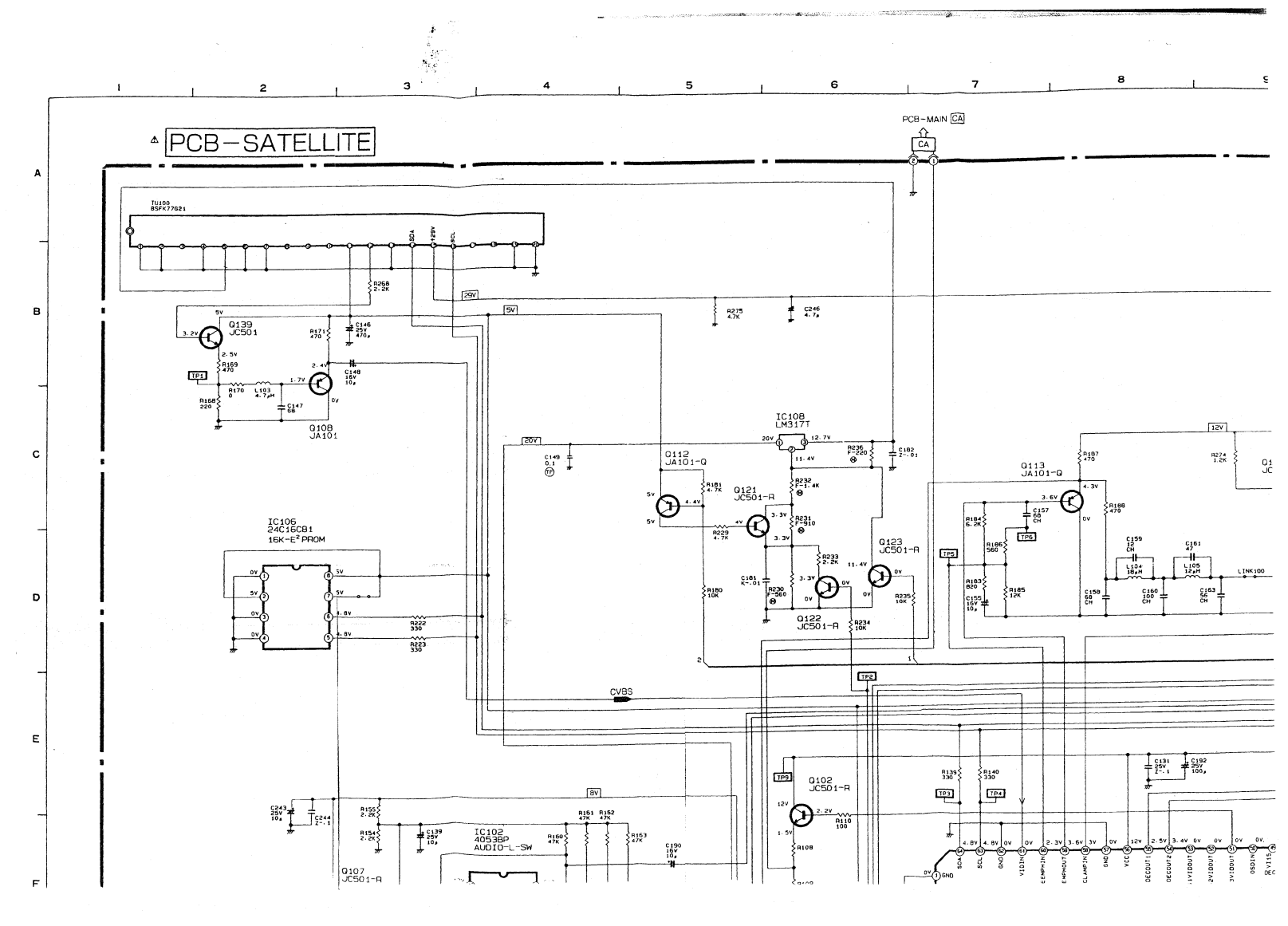


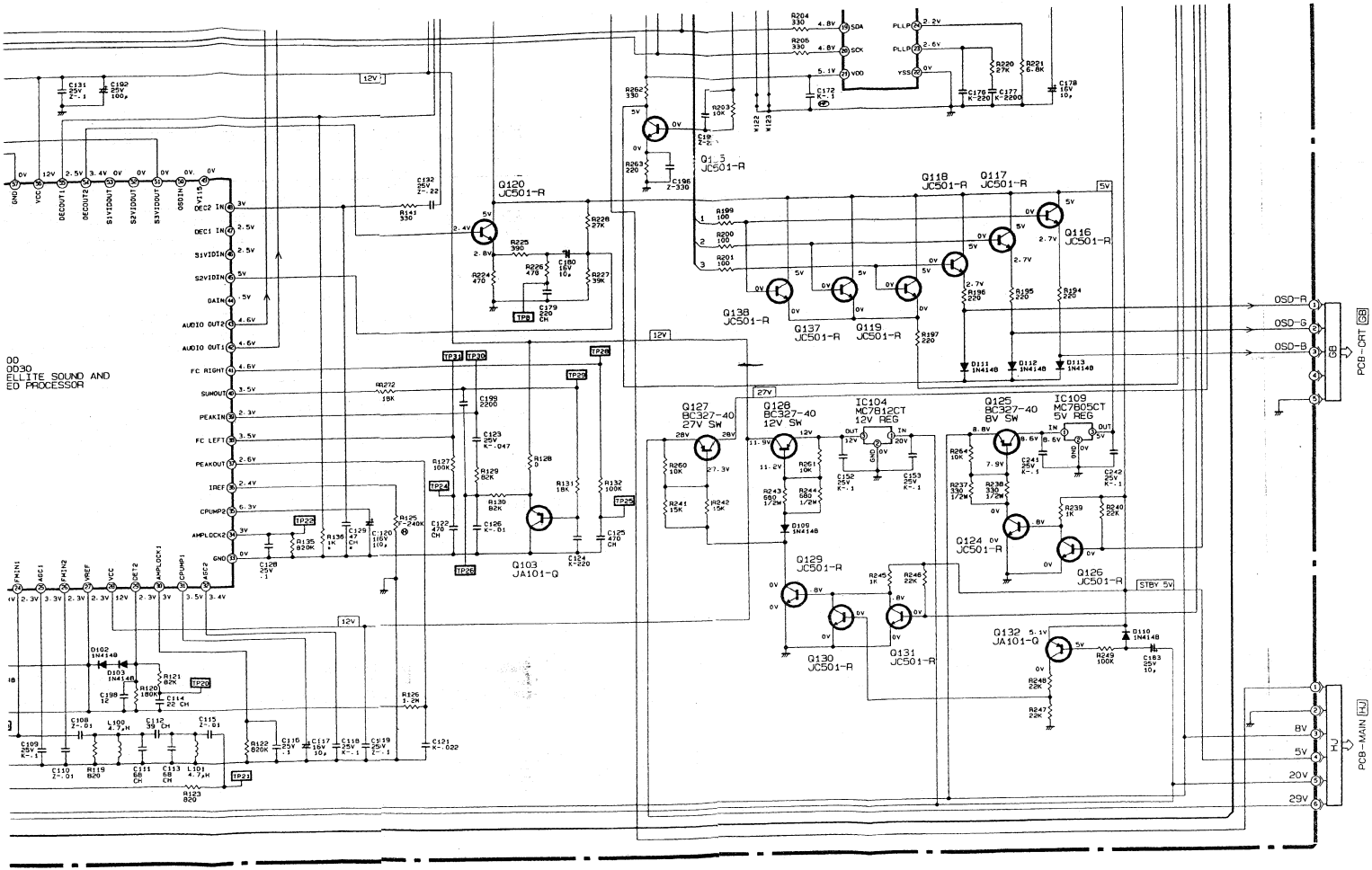
⑨54Vp-p(V) ⑪0.68Vp-p(H) ⑫146Vp-p(H)


IC660 TEA5101
18
17
16
Q6E3 JC501-R
Q6E4 JC501-R
Q665 JC501-R
Q6E7 JC501-R
Q6E8 2SA950-Y
SOCKET-CRT
G2
F2
FOCUS
DA47 BYV96E
5A
200V
GND
HEATER(-)
12V
HEATER(+)
LB
SCREEN
R
G
B
⑱86Vp-p(H)
⑰87Vp-p(H)
⑯97Vp-p(H)


IC100
STV0030
SATELLITE SOUND AND
VIDEO PROCESSOR
IC101
4053BP
AUDIO-R-SW
IC102
4053BP
AUDIO-L-SW
Q102
JC501-R
Q104
JC501-R
Q105
JC501-R
Q106
JC501-R
Q107
JC501-R
XT100
4MHZ
AV1OUT-I-R
AV1OUT-O-R
AV1OUT-I-L
AV1OUT-O-L
AV2IN-O-R
AV2IN-I-R
AV2IN-O-L
AV2IN-I-L
AV2OUT-O-L
AV2OUT-I-L
AV2OUT-O-R
AV2OUT-I-R
PCB-SOUND
DG
SDA
SCL
GND
VIDIN
DEEMPHIN
DEEMPHOUT
CLAMPIN
VCC
DECOUT1
DECOUT2
S1VIDOUT
S2VIDOUT
S3VIDOUT
OSDIN
RGB2 IN
DEC1 IN
S1VIDIN
S2VIDIN
DAIN
AUDIO OUT2
AUDIO OUT1
FC RIGHT
SUMOUT
PEAKIN
FC LEFT
PEAKOUT
IREF
CPUMP2
AMPLOCK2
GND
S3
S2
S1
SYNCIN
AUXOUT1
AUXOUT2
HA
IO1
IO2
VDD
XTL
RESET
TEST
CADOUT
AUXIN1
AUXIN2
SET1
SET2
AMPLOCK1
CPUMP1
8V
12V


8
9
10
11
12
13
14
15
16
PCB-VIDEO CRYPT HK
HK
PCB-MAIN HH
HH
AUTH
CLEAR
CMD.MUTE
27V
12V
5V
VCRYPOUT
VCRYPIN
BLK
PBB
PBA
TVBUSC
TVBUSD
V-SYNC
H-SYNC
IC105
ST9291
SAT-μ-CON
Q136
JC501-R
SK100
JACK-
MICROPHONE
Q114
JC501-R
Q115
JA101-Q
Q135
JC501-R
Q120
JC501-R
Q118
JC501-R
Q117
JC501-R
LINK100
RESET
PBB
PBA
CLEAR
AUTH
CMDMUTE
H/V
CCVID
P3.6
P3.5
P3.4
B
G
R
F/B
SDA
SCK
YDD
VSYNC
HSYNC
AVDD
PLLP
PLLP
YSS
TVBUSD
TVBUSC
OSCIN
OSCOUT
AUOSM3
AUOSM2
AUOSM1
P2.1
P2.3
P2.4
P2.5
P4.2
P4.1
P4.0


PCB-SATELLITE
PCB-MAIN CA
CA
Tu100
85FX77G21
SDA
+26V
SCL
R268
2.2K
20V
5V
Q139
JC501
3.2V
2.5V
R169
470
TP1
R168
220
R170
0
L103
4.7μH
1.7V
2.4V
C146
25V
470μ
R171
470
C148
16V
10μ
C147
68
0V
Q108
JA101
R275
4.7K
C246
4.7μ
IC108
LM317T
20V
12.7V
11.4V
C149
0.1
TP
R236
P-220
C102
2-.01
Q112
JA101-Q
R181
4.7K
4.4V
Q121
JC501-R
R232
P-1.4K
R231
P-910
3.3V
4V
R229
4.7K
Q123
JC501-R
R233
2.2K
C101
K-.01
R230
P-560
R180
10K
Q122
JC501-R
R234
10K
R235
10K
Q113
JA101-Q
4.3V
3.6V
0V
R187
470
R188
470
R184
6.2K
C157
68
CH
TP6
TP5
R186
560
R183
820
C155
16V
10μ
R185
10K
C159
12
CH
L104
10μH
L105
12μH
C161
47
C158
68
CH
C160
100
CH
C163
56
CH
LINK100
12V
R274
1.2K
IC106
24C16CB1
16K-E²PROM
0V
5V
4.8V
R222
330
R223
330
CVBS
TP2
8V
C243
25V
10μ
C244
2-.1
R155
2.2K
R154
2.2K
C139
25V
10μ
IC102
4053BP
AUDIO-L-SW
R161
47K
R162
47K
R160
47K
R163
47K
C190
16V
10μ
Q107
JC501-R
TP3
Q102
JC501-R
12V
2.2V
1.5V
R110
100
R108
R139
330
R140
330
TP4
C131
25V
2-.1
C192
25V
100μ
0V
GND
SDA
SCL
GND
V10M
EMPHAV
EMPHOV
CLAMPM
GND
VCC
DECOUT1
DECOUT2
1V10DO
1V10DI
2V10DO
3V10DO
DEV15


00
0030
ELLITE SOUND AND
ED PROCESSOR
12V
5V
27V
STBY 5V
Q120 JC501-R
Q103 JA101-Q
Q127 BC327-40 27V SW
Q128 BC327-40 12V SW
Q125 BC327-40 8V SW
IC104 MC7812CT 12V REG
IC109 MC7805CT 5V REG
Q118 JC501-R
Q117 JC501-R
Q116 JC501-R
Q138 JC501-R
Q137 JC501-R
Q119 JC501-R
Q124 JC501-R
Q126 JC501-R
Q129 JC501-R
Q130 JC501-R
Q131 JC501-R
Q132 JA101-Q
OSD-R
OSD-G
OSD-B
PCB-CRT GB
PCB-MAIN HJ
8V
5V
20V
29V